The Impact of National Culture and Institutions on Goodwill-Impairment Practices across IFRS-adopting Nations

By

Ahmad Alshehabi

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Department of Accounting and Finance
Birmingham Business School
The University of Birmingham
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Abstract

This thesis investigates the factors that influence the magnitude of goodwill impairment losses as well as the value relevance of these losses using a sample of 2,466 companies, drawn from 17 countries in which IFRSs have been made mandatory for all their domestic listed companies. The study period is 2007-2013 and includes 14,898 firm-year observations.

The results obtained from the Tobit regression analysis involving variables drawn from agency/positive accounting theory, Hofstede's theory of culture, as well as different theoretical institutional models, reveal that goodwill-impairment amounts are not only driven by economic factors and managerial reporting incentives, but also by country-specific factors, such as cultural and institutional variables.

The results also confirm that the strength of the equity market is still the single most influential factor contributing not only to differences in accounting practices but above all, to differences in institutional quality between countries. The results of a K-means cluster analysis reveal that there are two groups of countries, corresponding to strong equity-outsider and weaker equity-outsider clusters. By comparing the relative associations between goodwill-impairment amounts and economic factors and managerial reporting incentives across these two institutional clusters, estimation results reveal that firms in the strong equity-outsider cluster have recorded goodwill-impairment losses that are, on the one hand, strongly associated with economic factors, and on the other hand, weakly associated with managerial reporting incentives.

Further analysis also showed that while results for the pooled sample did not indicate that goodwill impairment losses were value relevant this was not the case for firms in the strong equity-outsider cluster, which have recorded impairment losses that are, on average, more relevant and more timely than those recorded by firms in the weaker equity-outsider cluster.

Dedication

This thesis is dedicated to my parents, wife, and children

for their support, patience, and most of all love.

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All praises and thanks be to Allah, the Most Gracious and the Most Merciful, for giving me strength, health, and patience to persevere through tough times; and for his countless blessings without which I would not have been able to accomplish this piece of work.

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Abbreviations and Acronyms

AT	Agency Theory
ATGIL	Abnormal Transitional Goodwill Impairment Losses
CEO	Chief Executive Officer
CGUs	Cash-Generating Units
EU	European Union
FASB	Financial Accounting Standards Board
GDP	Gross Domestic Product
IAR	International Accounting Research
IASB	International Accounting Standards Board
IASs	International Accounting Standards
ICB	Industry Classification Benchmark
IFRSs	International Financial Reporting Standards
IOS	Investment Opportunities Set
NCI	Non-Controlling Interest
OCF	Operating Cash Flows
PAT	Positive Accounting Theory
PwC	PricewaterhouseCoopers
SEM	Structural Equation Modelling
SFAS	Statement of Financial Accounting Standards
SSE	Stockholm Stock Exchange
TGIL	Transitional Goodwill-Impairment Losses
UK	The United Kingdom
US	The United States
US GAAP	US Generally Accepted Accounting Principles
USA	The United States of America
USD	United States Dollar
VIF	Variance Inflation Factor

1 Chapter 1: Introduction

1.1 Global Harmonisation of Accounting Standards

The International Accounting Standards Board (IASB) has been working along with the Financial Accounting Standards Board (FASB) to develop one set of global accounting standards as a means of increasing the comparability of accounting information throughout the world (Schipper, 2005; Foundation, 2010; Alexander and Archer, 2011). However, the demand for uniformity and comparability in accounting practices across countries persists, in spite of the worldwide adoption of International Accounting Standards (IASs) and International Financial Reporting Standards (IFRS) (hereafter referred to as IFRSs) (Ball, 2006; Zeff, 2007; Leuz, 2010). According to the IFRS-revised constitution, the objective of the IASB is:

> "To develop, in the public interest, a single set of high-quality, understandable, enforceable and globally accepted financial reporting standards based upon clearly articulated principles." (IASC Foundation, 2010, Preface (2, a)).

The IASB/FASB claim that the introduction of IFRS standards will provide greater benefits to the market participants around the world. This has been demonstrated in the form of a greater increase in market liquidity, a remarkable decline in a firm's cost of capital, an increase in shareholders' confidence, a surge in capital flows across national borders, and a considerable improvement in the quality of accounting figures during the post-adoption era (Barth et al., 2008; Epstein, 2009). These benefits, however, are unlikely to materialise, without proper implementation and enforcement of the standards (SEC 2000; Daske et al., 2008; Hail et al., 2010; Leuz, 2010). The global adoption of IFRSs cannot, therefore, be viewed in isolation from associated mechanisms of enforcement. According to Daske et al. (2008), "the capital-market benefits occur *only* in countries where firms have incentives to be transparent and where legal enforcement is strong" (pp. 1085-1086).

Given the possible advantages of implementing IFRSs, the number of countries that require or permit the use of IFRSs as a basis for financial statements has mushroomed dramatically over recent years. Currently, more than 120 nations require or permit their domestically-listed companies to use IFRSs for preparing their consolidated financial statements (Deloitte, 2012; IFRS Foundation, 2012). Notably, IFRSs standards have swiftly gained worldwide acceptance after the adoption of Regulation No.1606/2002 of the European Parliament and the Council of the European Union (EU) on 19 July 2002. The regulation requires all EU-based companies to prepare their consolidated accounts in accordance with the requirements of IFSRs (as adopted by the EU), from the calendar-year 2005 onwards[1]. Others influential countries (e.g. Brazil, Canada, India and Japan) have adopted or proposed a roadmap with timelines to adopt or converge with IFRSs (IASB, 2012; IFRS Foundation, 2012). The United States (US), is perhaps the only major country not to officially adopt IFRSs (Needles, 2012).

The simple (or alleged) adoption of IFRSs, however, does not seem to be adequate to produce financial reports that are easily comparable across globally-operating companies, unless the standards are uniformly applied across countries (Wulandari and Rahman, 2004; Ball, 2006; Leuz, 2010). The adoption of IFRSs means little if they are either not applied in practice, or applied with significant degrees of variation. In that regard, Ball (2006) has voiced scepticism regarding the uniformity of the application of IFRSs in practice, and suggested that diversity in accounting practices is virtually inevitable and is likely to be obscured by the superficial uniformity of standards. This will, in turn, provide misleading information to financial statements users. According to Ball, "uniform

[1]Companies can delay use of IFRSs until 2007 if: (a) they have debt securities that are only traded on an EU regulated market, or (b) they have been using another set of globally-recognised accounting standards and are publicly traded both in the EU and on a regulated third-country market.

standards alone will produce uniform financial reporting seems naive" (2006, p. 6). Several international accounting researchers/scholars also suggest that firms' actual accounting/reporting practices are likely to vary across countries, even if the same accounting standards are used. Therefore, the harmonisation of accounting regulations (*de jure* harmonisation) will not necessarily inevitably lead to the harmonisation of accounting practices (*de facto* harmonisation) (D'Arcy, 2006; Chand et al., 2008; Nobes and Kvaal, 2010).

1.2 Accounting Treatment of Goodwill under IFRS

In an attempt to promote international convergence and harmonisation between IFRSs and US GAAP (US Generally Accepted Accounting Principles), the IASB issued IFRS 3 *Business Combinations* in early 2004. This followed in the footsteps of the equivalent US Standards: Statement of Financial Accounting Standards (SFAS) No.141 *Accounting for Business Combinations* and SFAS No. 142 *Goodwill and Other Intangible Assets* issued in 2001. The standard was issued in March 2004, and applied to mergers and acquisitions for which the agreement date was on or after 31 March 2004.

On 10 January 2008, the IASB released a revised version of IFRS 3 "*Business Combinations"*, to replace IFRS 3 that was issued in 2004. The revised standard resulted from the second phase of the "*Business Combinations Project*", which was undertaken by both the IASB and the FASB. The standard required all business combinations starting on or after 1 July 2009 to be accounted for using the acquisition method (previously referred to as the purchase method), which requires that an acquirer measures assets acquired and liabilities assumed at their acquisition-date fair values (IFRS 3, 2008, Para. 4). However, early adoption is permitted for annual reporting periods beginning on or after 30 June 2007. In parallel, the IASB has also revised IAS 36 *"Impairment of Assets"*, and IAS 38

"Intangible Assets". The revisions, while promoting international convergence of accounting standards, seek to improve the relevance and reliability of accounting information that companies provide in their financial reports on business combinations.

IFRS 3 (2008) continues the requirements of IFRS 3 (2004) that goodwill is no longer considered a wasting asset with a definite life during which it is consumed. Goodwill should not, therefore, be amortised as an expense on a straight-line basis because its value does not necessarily decline on a regular/systematic pattern. It may frequently happen with different amounts. According to IFRS 3, goodwill arising in the context of a business combination must be tested for impairment in compliance with IAS 36, at least annually, or more frequently if certain triggering events or changes in circumstances occur. The IAS 36 impairment test applies to goodwill and other intangibles with indefinite useful lives, with the purpose of ensuring that assets are not carried at more than their recoverable amounts (IAS 36, 2008).

To determine whether goodwill or other types of assets might have been impaired, the IAS 36 in Paragraphs 12 to 17 provides a non-exhaustive list of internal and external factors that should be taken into account in making that determination. Although these factors, on their own, are neither necessary nor sufficient conditions for the recognition of goodwill-impairment, they are often considered relevant for the purpose of determining whether or not a probable goodwill-impairment loss exists. An obvious indication that an impairment loss may have occurred is when "evidence is available from internal reporting that indicates that the economic performance of an asset is, or will be, worse than expected" (IAS 36, 2008, Para 12 (g)). An example of an external indicator is when "an asset's market value has declined significantly more than would be expected" (IAS 36, 2008, Para 12 (a)) or when

"the carrying amount of the net assets of the entity is more than its market capitalisation" (IAS 36, 2008, Para 12 (d)). That is when a firm's market-to-book ratio is smaller than one. Another example of a potential external indicator is "significant changes with an adverse effect on the entity have taken place during the period, or will take place in the near future, in the technological, market, economic or legal environment in which the entity operates" (IAS 36, 2008, Para 12 (b)).

The revised versions of IFRS 3 and IAS 36 represent the latest episode in the accounting treatment of goodwill. The impairment-only approach under IFRS defines goodwill, in terms of its nature or attributes[2], as "an asset representing the future economic benefits arising from other assets acquired in a business combination that are not individually identified and separately recognised" (IFRS 3, Appendix A). This means that goodwill is a resource that generates economic benefits in the future only in combination with other assets not being capable of separate identification. Accordingly, intangible assets, which are not separately identified, are recognised as a portion of the value ascribed to goodwill, especially because these kind of assets failed to simultaneously satisfy the two recognition criteria set out in the previous version of IAS 38 *"Intangible Assets"*, which required an entity to recognise an intangible asset (whether purchased or internally-created) if, and only if: (i) it was probable

[2] It is necessary to understand the meaning of the term goodwill in the context in which it is being used. Therefore, this definition of goodwill is consistent with the bottom-up perspective, which focuses on the constituents/components of goodwill, rather than on the way in which it is measured, and attempts to understand or account for goodwill as a catch-all moniker for all other intangible assets that are acquired in a business combination but do not appear on the acquiree's balance sheet. As stated in the summary of the Exposure Draft issued by the US FASB in September 1999, "goodwill may consist of one or more unidentified intangible assets and identifiable intangible assets that are not reliably measurable. The elements of goodwill have varying useful economic lives…Because those and similar elements cannot be reliably measured separately from each other, they are accounted for collectively as goodwill".

that the future economic benefits that are attributable to the asset would flow to the entity; and (ii) the cost of the asset could be measured reliably.

Technically, goodwill acquired in a business combination does not produce cash-inflows separately from other assets (or groups of assets). Goodwill cannot be purchased or sold separately, because its value is not established by reference to a traded market (Hoggett et al., 2003). Unlike many other assets, goodwill cannot be measured directly, but rather can only be measured indirectly as a residual[3] amount being the difference between (a) and (b):

a) "The aggregate of (i) the consideration transferred measured at fair value on the date of acquisition, (ii) the amount of any non-controlling interest (NCI) in the acquiree, and (iii) the acquisition-date fair value of the acquire's previously held equity interest in the acquiree and;
b) The fair values of the identifiable assets acquired and the liabilities assumed on the acquisition date" (IFRS 3, 2008, Para 32).

In exceptional circumstances, when an acquirer can make a gain from a bargain purchase in which the amount of net assets acquired (assets acquired less liabilities assumed or incurred) exceeds the aggregate values of the consideration transferred, plus any NCI, plus an acquirer's previously held equity interest in the acquiree, negative goodwill or badwill will initially arise and the resulting amount of goodwill will be immediately taken into the profit and loss account for the period of acquisition (IFRS 3, 2008, Para 34).

Unlike SFAS-141(R)*, Accounting for Business Combinations*, the revised version of IFRS 3 provides an acquiring company involved in a partial acquisition (i.e., the acquisition is less than a 100% of the equity in the acquired company) with the option, on a transaction-by-

[3] The definition of goodwill as a residual is consistent with the top-down perspective, which focuses on the measurement or calculation of goodwill as "a subset of a larger asset, i.e. the company in total" (Bloom, 2008, pp. 24).

transaction basis, to measure the NCI (previously referred to as minority interest) in an acquiree either at its acquisition-date fair value (full goodwill) or at its proportionate share of the acquiree's identifiable net assets (partial goodwill). Under the traditional partial goodwill method (IFRS only), goodwill is measured on a proportionate[4]basis, in which the amount recognised as goodwill at the date of acquisition is entirely attributable to the parent company (i.e., excluding the NCI's share of goodwill). Under the newly-introduced full goodwill method (optional under IFRS, mandatory under US GAAP), goodwill is measured on a full basis, in which the goodwill of the entity as a whole is attributable to both the parent and the NCI (i.e., including the NCI's share in goodwill) (Alexander and Archer, 2011, Glaum et al., 2007, IASCF, 2009).

Under IAS 36, the impairment review of goodwill will take place at cash-generating units (CGUs) level.[5] Thus, from the date of acquisition, an acquirer shall assign goodwill to a CGU (or a group of CGUs) that is/are expected to benefit from the synergies arising from the business combination. Each CGU shall represent the lowest level within the entity at which goodwill is monitored for internal management purposes. This level, however, cannot be larger than an operating segment determined in accordance with IFRS 8 *Operating Segments* (IAS 36, 2008, Para. 80). IAS 36 defines CGU as "the smallest identifiable group

[4] Partial goodwill is determined as the excess of the consideration paid by the acquirer over the acquirer's proportionate share of the acquiree's identifiable net assets measured at acquisition-date fair values.

[5] Under SFAS-142, goodwill is tested for impairment at the level of reporting unit(s), which is an operating segment or one level below an operating segment (referred to as a component). Therefore, there is a possibility that goodwill is tested at a lower level than the level of the SFAS-142 impairment test. This indicates that firms are most likely to experience a higher incidence of impairment loss under IFRS rather than US GAAP (i.e. larger amounts of goodwill-impairments at higher frequencies). In this regard, Shamrock (2012, p. 202) wrote that "because US GAAP test goodwill at a high level, the superior performance of an operation of an entity subsidizes the poor performance of another business unit".

of assets that generates cash inflows that are largely independent of the cash inflows from other assets or groups of assets" (IAS 36, 2008, Para. 66).

The CGU to which goodwill is assigned shall be tested for impairment, at least annually, or more frequently if there is an indication that the unit may have been impaired. An impairment loss should be recognised for the CGU if, and only if, the carrying amount of the unit exceeds its recoverable amount (IAS 36, 2008, Para. 90). While the former is defined as "the amount at which an asset is recognised after deducting any accumulated depreciation and accumulated impairment losses", the latter can be achieved by recognising the higher of an asset's or a CGU's fair value less costs to sell (net selling price) and its value in use. The fair value less costs to sell is defined as "the amount obtainable from the sale of an asset or cash-generating unit in an arm's length transaction between knowledgeable, willing parties, less the costs of disposal".

The definition explicitly excludes forced sales or liquidations, where the seller is compelled to sell and the buyer knows about the seller's need to sell, which would, in turn, reduce the amount a non-particular (i.e., hypothetical) buyer would be willing to pay in cash to a willing seller of the asset(s). The value in use, however, represents "the present value of the future cash flows expected to be derived from an asset or cash-generating unit" (IAS 36, 2008, Para. 6). The amount of impairment is allocated to: "first reduce the carrying amount of any goodwill allocated to the cash-generating unit (group of units); and then, reduce the carrying amounts of the other assets of the unit (group of units) pro rata on the basis" (IAS 36, 2008, Para. 104). Any goodwill-impairment losses will be immediately recognised as an expense in the income statement and will not be reversed in a subsequent period (IAS 36, 2008, Para. 124).

1.3 Uneven Implementation of Goodwill-impairment Practices

The IASB suggests that today's impairment-only approach for goodwill will more accurately reflect the economic attributes of goodwill, compared to the straight-line approach of amortisation.

> "The Board [concluded that] …if a rigorous and operational impairment test could be devised, more useful information would be provided to users of an entity's financial statements" (IASB's Basis for Conclusions on IAS 36 Impairment of Assets).

Several research studies reveal that the impairment losses on goodwill are negatively associated with the firm's underlying economic attributes, implying that managers are using their impairment discretion in an efficient manner, and thereby recording impairment losses that more accurately reflect changes in the value of goodwill (Godfrey and Koh, 2009; Chalmers et al., 2011). These results are consistent with other studies reporting negative associations between firms' goodwill-impairment losses and their market values, implying that the value-relevance of goodwill-impairment under the impairment-only approach has increased relative to the value-relevance of amortisation charges (Li and Meek, 2006; Zang, 2008; AbuGhazaleh et al., 2012).

The impairment-only accounting model for goodwill has, however, been criticised by scholars who argued that goodwill-impairment testing may not always be evenly performed between firms that operate in different countries (Astami et al., 2006; Ball, 2006; D'Arcy, 2006). One reason is that the implementation of goodwill-impairment testing requires the use of professional judgement, accordingly leaving managers with a great deal of discretion in determining the timing and magnitude of goodwill-impairment losses (Massoud and Raiborn, 2003; Beatty and Weber, 2006; Wines et al., 2007; Ramanna and Watts, 2012). Several studies (e.g. Sevin and Schroeder, 2005; Hayn and Hughes, 2006; Swanson, 2007; Haman and Jubb, 2008) have found that the impairment test of goodwill has been used as a

vehicle that enables management to manage reported earnings either upward (or downward) through delaying (or accelerating) recognition of impairment loss. In his 2012 speech at FEE Conference on Corporate Reporting of the Future, Horst Hoogervorst, the Chairman of the IASB, voiced scepticism over the reliability of goodwill-impairments:

> "Most elements of goodwill are highly uncertain and subjective, and they often turn out to be illusory. Given its subjectivity, the treatment of goodwill is vulnerable to manipulation of the balance sheet and the P&L… in practice, entities might be hesitant to impair goodwill, so as to avoid giving the impression that they made a bad investment decision. … The question is if our current rules provide sufficient rigor to these decisions."

Another reason for country diversity in goodwill-impairment assessments is that managers from different countries will exercise their accounting discretion differently as a result of the difference in their local factors (Ball, 2006). These factors are perceived to constrain managers from using their impairment discretion opportunistically. A small but growing body of research literature has emerged in recent years that examines the role of national institutions on the outcomes of impairment-testing of goodwill.

Van de Poel et al. (2009) found evidence that goodwill-impairment decisions that managers make are affected by the strength of their country's judicial system. More precisely, managers from countries that scored high on the rule of law index tend to engage in goodwill-impairment decisions more frequently when compared to their counterparts in countries with relatively low rule-of-law scores. Verriest and Gaeremynck (2009) also found that impairing companies tend to operate in countries with higher values on the anti-director rights index, implying that managers from countries with stronger legal protection for minority shareholders impair their goodwill relatively more often. However, the research in this area is still in its infancy and a number of questions remain unanswered.

1.4 Objectives of the Study

This thesis has two main objectives:

i) To investigate the factors that influence the magnitude of goodwill-impairment losses for a sample of companies drawn from a number of countries.

ii) To investigate whether the value-relevance of goodwill-impairment losses differ between different clusters of countries.

The first research objective deals with the incentives that firms may have in reporting goodwill-impairment losses. These may be opportunistic, economic, institutional-specific, or cultural-specific. The second research objective complements the first one, and addresses the question of whether goodwill-impairment losses are taken into account by market participants in firm valuations. Moreover, the institutional and cultural factors which are used in the tests relating to the first research objective are also used to examine whether they affect the value-relevance of goodwill-impairment losses.

1.5 Motivations for the Study

Accounting for goodwill represents an extremely compelling area of study for at least three reasons. First, goodwill has long been one of the most complex and controversial issues in accounting. Goodwill, unlike many other assets, does not produce cash flows independently of other assets and cannot, therefore, be directly measured, but rather it can only be measured indirectly as a residual amount. Furthermore, goodwill can be tested for impairment only as part of the impairment test for CGU(s) to which goodwill is allocated. Second, shareholders tend to attach relatively greater importance to goodwill than any other items of the balance sheet (Godfrey and Koh, 2001). Third, "goodwill accounting is till this day indeed an

interesting example of how differences between countries' accounting standards can lead to an uneven playing field" (Zeff and Dharan, 1997, cited in D'Arcy, 2006, p. 24).

1.6 Contributions of the Study

This study makes serval contributions to existing literature in many important ways:

i) Using Hofstede's five dimensions of culture, the current study develops a workable framework linking a particular pattern of firms' goodwill-impairments with the cultural characteristics of their country of origin. So far as I know, international differences in goodwill-impairment outcomes have never been well explained in terms of cross-cultural differences. This study adds to existing research by investigating the impact of Hofstede's cultural dimensions on the reporting of goodwill-impairment amounts; and how firms' goodwill-impairment behaviours vary, in predictable ways, across countries with different cultural contexts.

ii) Whereas previous studies on the determinants of goodwill-impairments have mostly focused on economic/reporting incentives, the present study relies on a more comprehensive framework for explaining goodwill-impairment choices by considering the direct and indirect impact of national institutions in constraining managers' ability to report goodwill-impairment losses that lack relevance or economic reality. This study contributes to prior research and analyses the role of firms' economic and reporting incentives in determining the amounts of goodwill-impairments, conditional on the strength and quality of their country's institutions.

iii) One of the most fruitful and significant contributions of this study has been the development of reliable and valid measures of institutions for 70 countries using Structural Equation Modelling (SEM). This is something, which has always been

overlooked or taken for granted by international accounting researchers, who routinely make claims that their measures of institutors are naturally valid, without thinking about the question of whether (or the degree to which) these measures, which operationalise institutional constructs, accurately reflect the concepts they seek to measure. As Jacob Jacoby, Professor of Psychological Sciences, put it succinctly, "Most of our measures are only measures because someone *says* that they are, not because they have been shown to satisfy standard measurement criteria" (1978, p. 91).

iv) Numerous studies have been undertaken in the area of goodwill-impairment using a small sample of firms from a single country, rather than multiple countries. Accounting researchers, however, have scarcely investigated differences in the assessment of goodwill-impairment across countries, in particular, those from outside Europe. This is despite the fact that IFRSs have been widely adopted not only in Europe but also in countries outside Europe, making differences in goodwill-impairment conclusions and disclosures across countries/regions highly likely. So far as I know, the current study, along with Glaum et al. (2015)'s, are the only studies that compared goodwill-impairment practices using a (large) sample of firms from countries within Europe and outside Europe.

v) The present study also contributes to the existing literature on the value-relevance of goodwill-impairment because, in contrast to existing research, it considers the association between firms' goodwill-impairment charges and their markets values in a context that has never been examined before, thereby providing evidence on the value-relevance of goodwill-impairment for a comprehensive sample of listed companies from 17 countries in which IFRSs are in use.

vi) Almost all previous studies on goodwill-impairments have used the firm's level of debt as a proxy for managerial incentives to manipulate earnings through goodwill-impairments. This study contributes to existing research by providing evidence consistent with the monitoring role of debt in limiting managers' ability to manage the timing, and magnitude of goodwill-impairment recognition. Results of prior empirical studies, therefore, must be interpreted with caution, because some proxies for reporting incentives (e.g. debt and ownership structure) are also good proxies for monitoring, governance and oversight.

vii) The current study extends previous research by using a much longer and a more recent sample period covering 2007-2013. The sample spans the financial crisis of 2008-2009, the deepest economic crisis since the 1930s. This is a crucial advantage required to find a regular or systematic pattern of goodwill-impairment over time, and to find whether this pattern is affected by the crisis. To do this, I split the sample into the crisis period (2007-2009) and post-crisis period (2010-2013).

This study is related to the work of Swanson (2007), Van de Poel et al. (2009), Verriest and Gaeremynck (2009), Amiraslani et al. (2013), and Glaum et al. (2013 and 2015) who empirically examined the impact of the country-specific factors on the determination and reporting of goodwill-impairment losses. I have extended their work by developing a more comprehensive framework linking a particular pattern of firms' goodwill-impairments with the institutional/cultural characteristics of their country of origin, and developing the most up-to-date, reliable and valid measures of national institutions, as well as by using a comprehensive sample of publicly-traded companies over a much longer and more recent period. Furthermore, I have examined the impact and importance

of Hofstede's cultural dimensions on goodwill-impairment practices across countries inside and outside Europe. I have also extended the work of Lapointe-Antunes et al. (2009) on the value-relevance and timeliness of goodwill-impairment losses, and provided new evidence of the differences between investors from different countries (and different country groups) in terms of the perceptions about the importance goodwill-impairment losses. The empirical evidence is consistent with early cross-country studies (e.g. Alford et al., 1993; Ali and Hwang, 2000; Hung, 2000) on the value-relevance of accounting information when applied in a goodwill-impairment text.

1.7 Organisation of the Study

The chapters in this thesis are organised as follows: Chapter 2 reviews the existing literature on the association between goodwill-impairment amounts and economic/reporting incentives. Chapter 3 discusses the theoretical framework, which will be used to explain international differences in goodwill-impairment determinants. It also reviews the literature examining the role of national culture and institutions in explaining differences in accounting practices across jurisdictions. Chapter 4 develops the research hypotheses, and the research methodology adopted for the purpose of this study, as well as the data collection methods adopted for this study. Chapters 5, 6, and 7 present the empirical results and provide interpretation of research findings and their significance. The final chapter provides a conclusion of the results and a discussion of implications, and limitations of this study, as well as recommendations for further research.

2 Chapter 2: Review of Literature

2.1 Introduction

The purpose of this Chapter is to review empirical studies which examined the factors that influence goodwill impairment losses (the first research objective of the study), and studies that examined the value relevance of goodwill impairment losses (the second research objective of the study).

2.2 Determinants of Goodwill Impairment Losses

These studies are classified into two groups. Studies which examined goodwill impairment losses in one country, and studies which examined goodwill impairment across a number of countries. The review also includes studies that examined the determinants of write-offs of other intangibles and long-lived assets.

2.2.1 Single-Country Studies

Using a sample of 2,754 firm-year observations over the 1992 to 1998 period, Riedl (2004) compared the relative associations between the reported write-offs of long-lived assets with economic factors/reporting incentives before and after the issuance of SFAS 121, *Accounting for the Impairment of Long- Lived Assets*. The main objective of the study was to assess whether managers use their discretion to determine the amounts of write-offs reported in the years after to the introduction of SAFS 121. Proxies for economic factors include (1) a macroeconomic factor measured by the percent change in the US GDP, (2) an industry factor measured by the median change in the firm's ROA, and (3) three microeconomic factors including, the percent change in sales, change in pre-write-offs-earnings, and change in OCF. Proxies for managerial reporting incentives include (1) an indicator variable for a change in senior management, (2) a big bath variable when earnings are unexpectedly low, (3) a variable for earning smoothing incentive when earnings are

unexpectedly high, and (4) an indicator variable for the existence of private debt (firms with private debt tend to have restrictive covenants in their debt agreements than their counterparts with publicly-issued debt).

Results from the Tobit regression analysis showed that the associations between the reported asset write-offs and economic factors have significantly weakened after SFAS 121, relative to those reported before the standard. These associations are consistent across macro-, industry-, and firm-specific factors. This indicates that the amounts of write-offs reported in the post-adoption of SFAS 121 periods are less reflective of the true value of the firm, as compared to those reported before issuance of the standard. The results, also, showed that the write-offs amounts reported after SFAS 121 are strongly and significantly associated with big bath reporting incentive as opposed to those reported in the pre-adoption of SFAS 121 periods, implying that the asset write-offs are not driven by changes in the underlying economic values of assets, but rather by the managers' reporting incentives. Overall, the results add evidence that managers use the unverifiable discretion in SFAS 121 in an opportunistic manner; rather than in the manner allowing them to convey their personal perceptions of substance and economic reality, resulting in write-off amounts that are of low quality. These findings are consistent with the critics of the impairment standard. As Lynn Turner, the former Chief Accountant of the U.S. Securities and Exchange Commission, states:

> "Today's U.S. impairment standards are resulting in nothing more than one-time Big Bath charges that lack relevance or economic reality. The reality is that if there is a decline in the value of a business, it is a decline over time, not overnight…, it lacked a clear picture that would provide investors with the ability to see what was happening to the business through the eyes of management" (Turner, 2001).

Due to the inherent subjectivity and unverifiability allowed under the impairment standard, critics argue that goodwill-impairment losses are unlikely to be representationally faithful and, therefore, are not reliable. Rather, they believed that the impairment-only approach has resulted in an overall reduction in the reliability of financial reporting by offering managers the flexibility they need and desire to more easily adopt or justify their discretionary reporting choices (i.e., to impair or not to impair) or by not restricting opportunistic earnings management using assets write-downs.

This view was also supported by Kvaal (2005), who raised the question of whether impairment losses reflect only the reductions in the current value of goodwill asset, or whether they rather reflect other factors that are not entirely compatible with changes in asset values (e.g. a change in management should have little or no impact on the impairment decision). Using a sample of 238 firms (excluding firms in the financial and the oil and gas sectors) within FTSE 350 index at the end of year 2002, the author found evidence (against the null hypothesis of unbiased impairment accounting) that the amounts of goodwill-impairment losses were statistically significantly associated with the changes of the chairman of the board (13.994, p-value < 0.001), whereas their association with the share performance measures was statistically insignificant. The evidence found by the author strongly suggests that goodwill-impairments losses are void of economic content. This in turns throws doubt on the perceived usefulness of the impairment standards (in both IFRS and US GAAP) for providing information that is more relevant to investors.

In response to the adoption of SFAS 142, Beatty and Weber (2006) separately analysed the determinants of the manager's decision on whether to take a goodwill-impairment, using 232 impairing firms taken from 553 US firms that are more likely to impair (i.e., firms whose

difference between their market and book value of equity is not greater than their goodwill). The primary objective of their study was to empirically investigate factors affecting managers' preferences for reporting certain current goodwill-impairments below the income from continuing operations (i.e., as a cumulative effect arising from changes in accounting principles), or recording uncertain future goodwill-impairments above the line in the income from continuing operations (i.e., accelerating versus delaying the recognition of goodwill write-offs when SFAS 142 is adopted). To that end, a probit regression and a censored regression were used respectively to investigate the determinants of the goodwill-impairment decision as well as the amounts of goodwill-impairments.

After controlling for the effects of firms' economic performance, results show that the probability and the amounts of goodwill-impairments that are recorded at adoption of SFAS 142 (i.e., recorded as a cumulative effect of adopting of SFAS 142) are relatively small for firms that have less slack in their existing debt covenants, firms that have earnings-based management bonus plans, firms listed on an exchange with listing requirements (i.e., to avoid being delisted). Their results also indicate that firms that are riskier in terms of the standard deviation of their stock returns, and firms that have a higher market's response coefficient to earnings from continuing operations, as well as firms whose chief executive officers (CEOs) have a shorter tenure, will report TGIL that are greater in magnitude. Overall, the results suggest that firms' debt contracting and market incentives/disincentives drive managers' decision to accelerate or delay recognition of impairment losses.

Using a sample of 870 companies (comprised of 255 impairing firms and 615 non-impairing firms), Zang (2008) examined the degree to which managerial incentives proxies explain variations in the amounts of TGIL (as reported by US companies at the date of the adoption

of SFAS 142). After controlling for actual (economic) goodwill-impairment, the author found evidence consistent with the hypotheses of debt contracting and big bath, that highly levered firms appear to report lower amounts of goodwill-impairments in order to avoid potentially costly consequences of violating their debt covenants, whereas companies that have recently experienced a change in their CEOs tend to impair greater amounts of their goodwill in the adoption year that can be recorded as "a cumulative effect of accounting change, to which analysts and investors often assign a lower value weight than income items from continuing operations" (pp.42), so managers can reduce future impairment losses, and consequently report higher profits in later years.

Using a sample of 331 firms drawn from Compustat (comprised of 78 impairing firms, and 253 non-impairing firms), Lapointe-Antunes et al. (2008) empirically examined whether and how managers' reporting incentives and disincentives (i.e., constraints) may have played a role in determining TGIL (as recorded by Canadian companies after the mandatory adoption of Section 3062 in 2002). They find evidence against the standard setters' contention that the impairment test of goodwill will force companies to record impairment losses that better reflect the current reduction in the value of goodwill. The evidence reveals that accounting and reporting choices related to goodwill-impairment losses are more influenced by managers' reporting incentives to overstate and/or understate goodwill-impairment charges reported in the transitional period. More specifically, results show that companies with lower ROE and/or ROA than their industry peers tend to record higher amounts of TGIL, in their attempt to decrease the deviations from industry median/average ROA and/or ROE, and consequently "bring the value of these ratios towards the industry norm[6]" (p. 39). Similarly,

[6] This is consistent with institutional isomorphism, which suggests that firm managers look closely to industry norms, and will therefore follow the industry practices. Institutional isomorphism is broken down into three categories: Coercive isomorphism occurs when organisations adopt specific internal structures and procedures

firms with higher leverage than their industry peers tend to record lower amounts of goodwill-impairment losses in the transition period, in their attempt to avoid further deviations from industry median/average debt-equity ratio. An explanation for these findings may be attributed to the fact that during the transition period, Canadian firms were mandated to use the retroactive method, wherein transitional goodwill-impairment losses (TGIL) are charged against equity and thus have no effect on firms' net income at all. They rather reduce the values of assets and equity equally, and consequently, directly increase ROE, ROA and leverage.

Further evidence supporting the big bath hypothesis reveals that companies experiencing a change in their CEO tend to take more goodwill-impairments in the transition period, and thereby place the blame on the prior management team for poor past acquisitions, and create a favourable platform for the development of higher reported earnings and/or higher reported equity in the years to come. Finally, their empirical results show that widely-held firms tend to record lower amounts of TGIL to avoid any intervention and scrutiny by outside investors, who have no access to the information necessary to evaluate the performance of past acquisitions, and consequently determine whether goodwill value has been impaired.

In addition, Lapointe-Antunes et al. (2008) empirically investigated the relationship between the proportion of independent directors that are financially literate, on the audit committee and abnormal transitional goodwill-impairment losses (ATGIL), measured as "the reported transitional goodwill impairment loss minus the normal transitional goodwill impairment

due to pressure either from the state or from other organisations. Mimetic isomorphism occurs when an organisation copies or emulates the internal structures and procedures adopted by other organisations. Normative isomorphism occurs when organisations adopt the structures and procedures advocated by particular dominant professions, professional bodies and/or consultants (DiMaggio and Powell, 1983).

loss predicted by regressing the reported loss on the economic impairment proxies and control variables" (p. 49). To account for the censored distribution of the reported losses, a value of zero was assigned to the normal loss when its predicted value was negative. TGIL are overstated if their reported values are above the predicted/normal values (i.e., positive abnormal losses). TGIL are understated if their reported values fall below the predicted/normal losses (i.e., negative abnormal losses). Ideally, TGIL are neither overstated nor understated (i.e., zero abnormal losses). The results reveal that the number of independent/financially literate directors on their audit committee is negatively and significantly (p-value < 0.013) associated with positive abnormal losses, but positively and significantly (Pp-value < 0.026) associated with negative abnormal losses. The overall results suggest that firms with higher audit quality (in terms of competence and independence) tend to record lower ATGIL. This is consistent with audit committee's role in constraining managerial opportunism/earnings management associated with the impairment of goodwill, which is relevant to the author's conclusion that "managers' ability to act opportunistically depends–at least partially–on the effectiveness of the audit committee's monitoring" (p. 38).

These findings lend support to an earlier study (Ahmed and Guler, 2007) that assessed the role of corporate boards of directors in monitoring the managers' discretionary behaviour concerning the determination and reporting of goodwill write-offs. After controlling for economic and reporting incentives, the results showed a strong association between the likelihood of a goodwill-impairment loss and firm-level measures of corporate governance, namely (1) Percentage of outside directors on the board; (2) Percentage of outside directors' ownership;(3) Separation of the role between Chairman and CEO; (4) Number of directors serving on boards; and (5) Number of directors who are active CEOs. More precisely, the

results showed that impairing firms were, on average, more active in reducing inside, busy, and active directors, compared to their non-impairing counterparts. By the same token, impairing firms are more apt to separate the positions of their Chairman and CEO, compared to non-impairing firms.

The previous results seem consistent in the post-adoption of SFAS 142 period. Masters-Stout et al. (2008) investigated the role played by CEOs of Fortune 500 companies in determining the amounts of goodwill-impairment losses reported after the issuance of SFAS 142 during the period 2003-2005, and found compelling evidence that incoming CEOs continue to impair larger amounts of goodwill compared to their predecessors, so they can put the blame on the previous management and clear the deck or clear out the rubbish to improve earnings over future reporting periods. The results suggest that goodwill-impairment testing applies differently, at a minimum, between the old and new CEOs, and thereby leaves the door open to potential earnings manipulation.

In a recent study, Jordan and Clark (2011) compared the levels of earnings for impairing and non-impairing companies in both 2001 and 2002, using two performance measures: ROA/ROS. Their empirical results reveal that the median ROA and ROS did not vary significantly between these two groups in 2001. In 2002, the 29 impairing companies, however, reported median ROA/ROS significantly lower than those reported by the 51 non-impairing firms. The authors interpret the obtained results to strongly suggest that "it is unlikely that depressed earnings in one period alone would cause management to doubt the value of its goodwill… the impairment losses were likely recorded because managers for these companies viewed 2002 as an opportune time to take big baths and further reduce their already depressed earnings" (p. 68).

In seeming contradiction to the big bath hypothesis, Jahmani et al. (2010) point out that the number of firms that had experienced three consecutive years of losses, and had 'actually' impaired their goodwill was found to be insignificant during 2003-2005 period, implying that these companies were using goodwill-impairment testing as a primary tool to avoid recognising any goodwill-impairment charges, and consequently manage the volatility of reported earnings. Moreover, Chambers (2010) used a logistic regression model to examine whether firms that have incentives to increase their earnings per share (EPS) strategically avoid reporting goodwill-impairment losses to manage their reported earnings upward. Using a sample of 16802 firm-year observations with goodwill assets (representing 4713 firms) over the period 2004-2008, the author found that firms whose EPS/ ΔEPS is negative (i.e., below zero) or close to zero are less likely to impair their goodwill in order to report EPS above zero or above prior year EPS.

Seemingly contrary results are no longer seen as contrary, but as supportive of managers' competence to use goodwill-impairment testing as a powerful tool to artificially inflate or deflate the reported earnings if they have the incentive to do so. However, "it is not clear which incentives will prevail" (Lapointe-Antunes et al., 2008, p. 38). For instance, managers of firms with unexpectedly low earnings are expected to manage their earnings either downward by aggressively accelerating the recognition of goodwill-impairment charges (i.e., take a big bath), or upward by delaying or postponing the recognition of impairment losses, or at least keeping them to the lowest level possible in order to avoid or mitigate further losses. However, when earnings are unexpectedly high, managers are expected to manage their earnings downward, by conservatively accelerating goodwill-impairment charges in order to create cookie-jar reserves that could be used in later years to smooth out bumps (or ups and downs) in earnings (i.e., earnings smoothing), or in the words of Arthur

Levitt, a former chief accountant of the U.S. Securities and Exchange Commission, "to satisfy consensus earnings estimates and project a smooth earnings path, wishful thinking may be winning the day over faithful representation" (Levitt, 1998). The current accounting treatment of goodwill-impairment could, therefore, be thought of as just or a load of hocus-pocus. It does represent a grey area where it is difficult to hold the line on discretionary and non-discretionary impairments that reflect managers' desires, rather than the true value of goodwill.

Ramanna (2008) provides a strong argument in favour of AT, predicting that at least some management of goodwill-impairment is opportunistic (goodwill-related earnings management). Differently put, some firms are more likely than others to use their SFAS 142 goodwill-impairment discretion opportunistically so as to either accelerate or delay the timing of recognition of goodwill-impairment losses, resulting in an underestimate or overestimate of assets and earnings. Ramanna also identified three types of firm characteristics that are likely to increase the probability of and magnitude of goodwill-impairments that can be managed. First, the number and size of an acquirer's reporting units. For an acquiring firm, the larger the number and size of its reporting units, the greater its discretion in determining goodwill-impairment charges. For example, firms with large and numerous reporting units have substantially greater flexibility in initially allocating acquired goodwill either to poorly performing units to accelerate the recognition of goodwill-impairment losses (i.e., take a big bath), or to better-performing units (i.e., with existing internally-generated growth potential) to delay the recognition of any goodwill-impairment losses. Second, higher market-to-book ratios. Reporting units with higher M/B ratios, are more likely to absorb the impairment losses, giving them greater discretion to avoid reporting any future impairments. Third, the unverifiability of net assets. Reporting units

with higher proportions of unverifiable net assets (i.e., assets that are not bought/sold separately in open and active markets and thus their values cannot be established by reference to traded markets), have greater flexibility in estimating the current value of net assets and goodwill, giving them greater discretion in determining goodwill-impairment losses.

In a different approach to testing whether managers exercise their goodwill write-offs discretion to reflect their firms' underlying economic attributes, Godfrey and Koh (2009) investigated the correlation between US firms' goodwill-impairment losses and their investment opportunities (IOS), which is a six-item composite measure explaining 93 % of the common variance between the following six measures: (i) investment intensity; (ii) growth in the market value of assets; (iii) market-to-book value of assets; (iv) R&D expense to total assets ; (v) market-to-book value of equity; and (vi) earnings-to-price ratio. Using a pooled sample of 575 firm-year observations reporting goodwill-impairment charges above the line over the period 2002-2004, Godfrey and Koh found strong evidence that the amount of goodwill-impairment losses firms report in their early years is significantly and negatively associated with firms' IOS. One-standard-deviation increase in firms' IOS leads to a 10.49 per cent fall in goodwill-impairment amounts, implying that the association is economically significant. This result held even after controlling for other contracting and political incentives, such as leverage and size of the firm.

Their results also showed that both firms' returns on assets (ROA), and firms' stock returns (RET) were strongly (negatively) related to goodwill-impairment amounts, implying that "firms faring well economically have less reason to record large impairment losses" (p. 138). Overall, the results revealed that around 53 percent of the variations in goodwill-impairment

losses are explained by firms' economic performance, leverage and firm size. However, economic performance measures (IOS, ROA and RET) appear to be consistently (across all years) more dominant in their correlations with goodwill-impairment amounts than the contracting and political incentives (leverage and firm size), with ROA remains the most important factor. Finally, the authors conclude that "at least in their initial years of adopting SFAS 142, managers use the flexibility allowed within the goodwill-impairment reporting regime to reflect the economic value of underlying economic investment opportunities" (p. 138).

In the Australian context, Stokes and Webster (2010) investigated whether the association between the amounts of goodwill written off and firms' IOS is stronger in the presence of high-quality auditing, as proxied by the BIG4 (Deloitte Touche, PwC, Ernst & Young, and KPMG). Using two samples of firms (BIG4 and non-BIG4) over the period 2006-2008, they ran two separate Tobit regression models, one for each group of firms, to determine the degree to which the regression coefficients and R-squared values for these two models are significantly different. The two-group model links a goodwill-impairment loss with multiples of variables meant to capture a firm's underlying economics (i.e., IOS, ROA and RET), and its reporting incentives (i.e., firm size and leverage ratio). The overall results showed that the BIG4 model has higher explanatory power compared to the non-BIG4 model (R-squared of 0.46 versus 0.32).

More specifically, their empirical results showed that goodwill-impairment losses were negatively and significantly (-0.05, p-value < 0.00) associated with IOS for the only firms audited by BIG4 auditors, whereas the IOS coefficient for the non-BIG4 group was neither negative nor statistically significant (0.01, p-value = 0.308), suggesting that "goodwill-

impairment losses under IFRS reflect firms' underlying IOS only when firms are audited by BIG4 auditors" (p. 16). The results, also, showed that the BIG4 group had a relatively higher ROA coefficient estimate in absolute value, compared to the non-BIG4 group (-0.39, p-value < 0.000 versus -0.31, p-value < 0.000), whereas all other coefficients were statistically insignificant for the both groups. In order to provide a better insight into the joint effects of auditor type and firms' IOS, the two samples were pooled to form a single composite sample of 1376 firm-years observations (composed of 857 BIG4 and 519 non-BIG4) and the Tobit regression was repeated with the addition of two further variables (i.e., BIG4 and BIG4 * IOS) capturing the incremental contribution of BIG4 auditors to the impact of IOS on firms' goodwill-impairments. The parameter estimate results demonstrated that the IOS coefficient was no longer significant, while the coefficient on the interaction term (BIG4 * IOS) was negatively significant (-0.05, p-value <0.05), indicating that the association between firms' goodwill-impairments and their IOS depends, at least partially, on the quality of auditing provided by BIG4 auditors, who enforce compliance with IFRS and constrain opportunism discretion by management to ensure that no impairment loss has been made, unless a firm has suffered from impairment in its goodwill's underlying economic value.

In a similar study, Chalmers et al. (2011) empirically examined whether the impairment-only approach will properly and fairly reflect the underlying economic value of goodwill as opposed to the straight-line method of amortisation required under Australian GAAP, by comparing the relationship between Australian firms' goodwill-impairment losses and their IOS before and after their adoption of IFRSs. Their results showed that goodwill-impairment losses are more closely related to firms' underlying economic fundamentals (IOS and accounting returns) than goodwill amortisation charges. More specifically, the results revealed that return on assets consistently remains the most economically significant factor,

which alone explained 33 percent of the variations in goodwill-impairment losses, indicating that "better-performing firms are less likely to experience events giving rise to goodwill-impairments" (p. 652). These findings support the argument that the impairment-only approach under IFRS is likely to provide a better measure of the economic value of goodwill than the systematic amortisation approach because the trigger for any impairment loss recognition is driven by the change in economic conditions. This suggests that the write-downs of goodwill are more closely linked to the real economic decline in asset values (i.e., economic reality), as opposed to goodwill amortisation charges, which are "relatively arbitrary estimates of goodwill diminution and do not necessarily reflect their economic counterparts" (p. 637).

In the UK context, AbuGhazaleh et al. (2011) examined the way in which accounting discretion is exercised by UK firms' managers in determining what goodwill-impairment losses they should report. They argued that it is possible for managers to opportunistically use the discretion embodied in the impairment standards in order to manage the level and variability of reported earnings (to disguise the true performance of their firms, if they are performing poorly, and protect their private control benefits by avoiding outside intervention), resulting in goodwill-impairment losses that do not faithfully represent the economic value of goodwill (i.e., goodwill-impairments are more associated with proxies for managerial opportunism). It may even be possible that the same discretion will be used efficiently by managers in order to reveal their privately held information on their firms' financial position and performance, resulting in goodwill-impairment losses that are more reflective of their firms' underlying attributes (i.e., economic measures of performance are more dominant in their association with goodwill-impairment losses). Using firm level pooled data over the first two consecutive years (2005-2006) of the initial application of

IFRS 3 (2004), the authors empirically investigated the degree to which proxies for firm economic performance, and reporting incentives, as well as corporate governance measures explain the total amounts of goodwill-impairment losses recorded by the UK's largest non-financial firms trading on the London Stock Exchange's Alternative Investment Market. After controlling for economic proxies, their empirical results revealed that goodwill-impairment losses are strongly associated with earnings smoothing and big bath reporting incentives (-0.09 and 0.10 respectively). The results also showed positive correlations between goodwill-impairment amounts and effective corporate governance mechanisms.

Interestingly, AbuGhazaleh et al. interpreted the findings as evidence against the existence of opportunistic behaviour, and suggested that managers appear to be exercising their accounting discretion afforded by the impairment standards in an efficient manner, rather than acting opportunistically. Finally, the authors whimsically concluded that the impairment test of goodwill has enhanced the quality of information reported on goodwill (as intended by the IASB), and provided firm managers with a framework that faithfully reflects changes in the underlying economic value of goodwill. However, the conclusion drawn by the authors are not sufficiently supported by the evidence presented in their favour. Rather, the empirical evidence the authors cite supports the view that the impairment test of goodwill provided managers with another tool to manage earnings, practically their empirical results revealed that earnings smoothing and big bath were more dominant in their association with goodwill-impairments than economic factors. None of the variables used by the authors to capture the actual impairments of goodwill (B/M, size of goodwill, number of CGUs, change in turnover, change in OCF, and ROA) were practically or statically significant, with the exception of the book-to-market variable, which was statistically

significant at the .05 level, but not practically important, explaining only 2 to 3 per cent of the variations in goodwill-impairment losses.

Another issue to consider is that the values of adjusted R-squared in Pooled Tobit and Pooled OLS models (13.2 % and 18.6% respectively) were relatively low; they were not as high as expected, implying that a significant proportion of the variation in goodwill-impairment losses were not explained by the factors for which the two model accounted (i.e., the factors had little impact on determining goodwill-impairment losses). The main reason for low adjusted R-squared values is that neither model was completely or correctly specified, suggesting that some important variables had been omitted from the models, such as change in industry-adjusted ROA, change in industry-adjusted ROE, change in industry-adjusted M/B ratio, industry-adjusted sales growth, and the percentage change in UK GDPP. Hence, the two models did not appear to fit the data well; although the use of Pooled OLS regression improved the fit of the model by 5.4%, but it was not yet a well-fitting model. Moreover, the authors decided to pool the data, assuming the data were naturally poolable, without thinking of the question of whether the data were poolable or not, ignoring the unobserved effects specific to firm or time, which can be captured by using one of panel regression models (FE/RE). While the authors managed to control for the time-specific effects by including a year dummy variable in their default model, they failed to control for omitted firm characteristics (e.g. firms' ownership structure and median or average change in firm's industry ROA).

AbuGhazaleh et al. (2011) also examined the effects of corporate governance indicators measured at the firm level in providing managers with strictly enforced negative incentives (i.e., discipline) to report high-quality goodwill-impairment losses. They hypothesised that

the impairments of goodwill are a function of firms' underlying economics, managerial incentives, and corporate governance structure. After controlling for managerial incentives and actual impairments proxies, they found evidence, in line with the role of corporate governance in monitoring and disciplining poorly performing and/or opportunistic managers, that the amounts of goodwill written-off are positively (significantly) associated with strong corporate governance. These results imply that managers constrained by powerful disciplining mechanisms are more apt to use their goodwill-impairment discretion in a timely and efficient manner, rather than acting opportunistically, allowing them to reveal their own expectations about the firms' underlying financial performance and position, resulting in impairment charges that are more representative of the decline in goodwill's underlying economic value.

The earliest studies thereon found mixed results regarding the determination and reporting of firms' goodwill-impairment losses. This, in turn, makes their value in research studies questionable, or makes their findings and conclusions nonsense, inconclusive, and hard to compare (i.e., one-time relationships). Consistent with this view, Riedl (2004) argued that the association between goodwill-impairment losses and economic/reporting incentives remains *a priori* unclear. This has led several researchers to analyse the conditional association, in which the effects of the impairment standard on the characteristics of goodwill-impairment losses are investigated, given the specific value of a third variable, which acts as an antecedent, mediator, or moderator. The observed relationship between goodwill-impairments and firms' economic/discretionary indicators may be maintained, increased, decreased, or even reversed when third variables are taken into account (e.g. internal/external governance mechanisms bringing together the interests of insiders and outsiders).

2.2.2 Multi-Country Studies

Using a sample of 47 European largest companies listed on FTSE 30 during the period 2005-2006, Verriest and Gaeremynck, (2009) empirically examined the impact of firm performance, ownership structure, and firm- and country- level corporate governance on the firms' decision to impair their goodwill and the quality of impairment disclosure, as measured by a check-box of five disclosure items, which are all meant to provide relevant information to investors regarding the valuation of goodwill. These five items include: (1) whether goodwill is mentioned separately in the notes or not; (2) whether the CGUs are mentioned over which goodwill is allocated or not; (3) whether the effective amount of goodwill that is allocated to the CGUs is disclosed or not; (4) whether the discount rate used to calculate value in use is disclosed or not; and (5) whether the growth rates of the expected future cash flows used to calculate the value in use is disclosed or not.

The authors hypothesise that companies with low degrees of ownership concentration, and companies with more independent board members, as well as companies that separate the roles of chairman and CEO will impair their goodwill more often. Their empirical results show a positive association between the incidence of impairment losses and the number of independent members on the board, implying that companies are more likely to impair their goodwill in the existence of strong governance mechanisms. Their results, however, revealed that the independence of the board of directors does not seem to have a consistent impact on the disclosure quality of the impairment. The authors suggest that the reason for these mixed results is simply due to a lack of statistical power, a problem which is usually caused by using a sample size that is too small to detect meaningful effects.[7]Finally, the authors found

[7] From the researcher's point of view, the authors assume that firms' decisions to impair their goodwill are associated with the amount of information disclosed regarding their impairment decisions, i.e. impairing firms will have a higher quality of impairment disclosure. However, this is not necessarily/always true for at least

consistent evidence that companies operating in countries with strong anti-director rights are more apt to impair their goodwill and disclose more information on their impairment test. This is consistent with the findings of Paananen (2008), who found evidence that firms disclosing more information about fair value estimations of their goodwill tend to operate in countries with a high level of investor protection.

Van de Poel et al. (2009) studied the impact that BIG4 auditors and the rule of law may have had on the association between the likelihood, or probability, of taking a goodwill-impairment charge and firms' reporting incentives (big bath and earnings smoothing) after controlling for country-, industry-, and firm-level economic factors (change in GDP, median change in firms' industry ROA, and change in firms' sales/OCF). Using a sample of European companies operating in non-financial industries, and mandated to use IFRSs during the period 2005 and 2006, they found that t firms' decision to impair their goodwill is positively associated with income-decreasing reporting incentives. In particular, firms appeared to more frequently impair their goodwill, when their reported earnings were unexpectedly low (i.e., take a big bath), or when their reported earnings were unexpectedly high (i.e., smooth earnings).

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two reasons; first, the so-called quality disclosure index does not seem to represent the quality of information, but rather the quantity or adequacy of information released about the impairment test of goodwill. Amiraslani et al. (2013) find evidence in favour of this view suggesting that a majority of companies appear to be box-ticking their way through the compliance process (pp. 10). In January 2013, the European Securities and Markets Authority (ESMA) reported on its review of accounting practices related to impairment testing of goodwill and other intangible assets under International Accounting Standard (IAS) 36, *Impairment of Assets*. According to the report, which reviewed 2011 data: "Although the major disclosures related to goodwill-impairment testing were generally included, in many cases these were of a boilerplate nature and not entity-specific" (ESMA, 2013pp. 3). Second, the authors ignore the fact that not all goodwill-impairments are incurred for economic reasons; some impairment losses are discretionary and reflect nothing more than big bath reporting behaviour. For example, a firm that decides to impair its goodwill may score high in terms of disclosure quality, even though it lacks the relevance or economic reality.

The result also revealed that companies that are audited by BIG4 are inclined to record goodwill-impairment charges more often than their non-BIG4 counterparts. However, this was only true when the sample was restricted to firms with overvalued goodwill on their balance sheet (Market value – Book Value < Goodwill t-1). The effects of Big4 auditors on the relationship between income-decreasing incentives (BATH and SMOOTH) and the frequency of goodwill-impairment losses were measured using the interaction term(s) between BIG4 and income-decreasing incentives (BATH * BIG4 and SMOOTH * BIG4). The results reveal that BIG4 auditors negatively and significantly affect/moderate the relationship (i.e., the strength and direction) between the occurrence of goodwill-impairments and income-decreasing incentives. This finding indicates that when income-decreasing incentives are low, companies that are audited by non-BIG4 are more apt to delay recognition of goodwill-impairments (type II error), whereas they are more apt to accelerate recognition of goodwill-impairments, when earnings are unexpectedly low (high) (type I error). Overall, the results suggest that "BIG4 auditors do a better job in constraining the use of the goodwill-impairment test as a tool to manage earnings" (p. 33).

Furthermore, the results showed that the coefficient on the rule of law variable (i.e., LAW), a proxy for a country's judicial system, is positive and highly significant. This finding indicates that when other factors are held constant, companies operating in countries characterised by a strong legal/judicial system tend to impair their goodwill more often compared to their counterparts. This is consistent with Bushman and Piotroski (2006), who suggest that companies located in countries with strong legal/judicial systems have a higher propensity to report conservatively or aggressively. The overall results indicate that the impairment test of goodwill is not evenly applied across auditors and countries. These results confirm the doubts raised by Ball (2006) regarding whether managers and auditors will apply

the impairment test of goodwill and other assets with the same diligence in all IFRS-adopting countries.

Nevertheless, the study can be criticised on at least two main grounds. First, the authors have taken the conservative (or prudence) approach, rather than the faithful presentation approach, to interpret the constraints provided by the type of auditor and quality of judicial system on the occurrence, and goodwill-impairment amounts, suggesting that firms audited by a BIG4 auditor or located in countries with strong judicial systems appeared to report conservatively (i.e., impair more of their goodwill and more often). They thereby overlook the fact that conservatism/prudence is no longer a desirable/ fundamental characteristic of the quality of financial reporting information (IASB, 2010). Second, the authors did not consider the joint effects of auditing and judicial systems on the impairment of goodwill. Numerous studies (e.g. Van der Plaats, 2000; Choi and Wong, 2007; Francis and Wang, 2008) have pointed out that the role of auditors' governance depends on the national institutional settings in which auditors operate, and suggested that if certain factors are present in the institutional settings, the auditors' independence and objectivity will be likely to improve. More specifically, Francis and Wang (2008) explored the joint effects of investor protection and auditing on earnings quality, and found evidence that without being domiciled in countries with good investor protection, being audited by a BIG4 auditor per se is not a sufficient condition for achieving a higher quality of reported earnings, The evidence indicated that "in the absence of investor protection, BIG4 auditors simply do not have incentives to enforce high-quality earnings[8]…our findings refute the view that BIG4 auditor behaviour is uniform throughout the world, irrespective of country-specific context" (p. 185).

[8] Choi and Wong (2007) examined the impact of the strength of a country's legal environment on the governance role of auditors, and found that in countries with weak legal protection of outside investors, auditors act as a partial substitute for weak legal institutions and, therefore, play an even stronger governance role.

In a recent study, Glaum et al. (2013) developed a model that brings together firm- and country-specific variables to empirically investigate the joint effects of the firm- and country-specific characteristics on firms' levels of disclosure and compliance with the requirements of IFRS 3 and IAS 36. Using a sample of 357 firms operating in the 17 European countries, they found that compliance with IFRSs is simultaneously determined by firm- and country-level factors. At the firm level, they found that the size of goodwill, prior experience with IFRSs, the type of auditor, the existence of audit committee, the issuance of equity shares/bonds, and ownership structure play important roles in compliance. At the industry level, they found that financial firms (i.e., banks, insurance companies, real estate) exhibit below-average compliance (-3.064, p-value < 0.001) relative to those their counterparts in manufacturing and other services. At country-level, they found evidence of legal origins effects, with firms from Scandinavian and Anglo-Saxon countries displaying an above-average level of compliance, whereas firms from Middle-Eastern Europe displayed below-average compliance. This indicates that compliance differs across countries, and these differences are systematically influenced by legal origins.

Further investigation reveals that compliance is significantly associated with the strength of public law enforcement (as proxied by public enforcement index developed by Djankov et al. (2008), the size of national equity markets (as proxied by (1) market capitalisation of domestic listed companies/GDP, (2) number of domestic listed companies/ population, and (3) market turnover/GDP) and cultural dimension of the European Social Survey (openness versus conservation). In order to provide better insight into how country-specific variables impact compliance in combination with firm-level variables (i.e., whether the impact of firm-level variables on compliance is moderated/influenced by country-level variables), interaction terms between firm- and country-level variable were employed. The results show

that the coefficient of the interaction term (ENFORCE X AUDIT_COM) is negative and significant, indicating that when an audit committee exists, the level of compliance increases for only firms located in countries with lax enforcement mechanisms. This finding suggests that "a substitution effect appears to exist between the strength of the country-level enforcement system and company-level supervision of the accounting function" (p. 33). The results, also, show that the level of compliance is affected more by firms' ownership structure in countries with weak public enforcement. Interestingly, their results, however, reveal that the positive effect of the existence of audit committee on the level of compliance is greater if a firm is domiciled in a country with a relatively large stock market, implying that a complementary effect appears to exist between the size of national stock markets and the audit committees on compliance.

Amiraslani et al. (2013) examined the impact of institutional differences on the speed of recognition of impairment charges in the post-adoption period of IFRSs (2006-2011) using Leuz (2010)'s country cluster classification. Cluster (1) consists of countries characterised as outsider economies with strong enforcement, Cluster (2) comprises countries characterised as insider economies with strong enforcement, and Cluster (3) contains countries characterised as insider economies with weak enforcement. Using a sample of 4474 publicly-listed companies from the EU (plus Norway and Switzerland), they found that those companies in cluster (1) countries appeared to recognise goodwill-impairment losses in a more timely fashion (20.7%), followed by 12.9% and 5.9% for companies in Cluster (2) and (3) countries respectively. This finding indicates that the timeliness of goodwill-impairment losses is dependent on a country's institutional quality, suggesting that "companies operating in strong regulatory and enforcement settings appear to recognize

economic losses on a more timely basis than those based in jurisdictions where enforcement is anticipated to be weaker" (p. 2).

Additionally, the authors investigated the joint impact of the firm- and country-specific characteristics on the quality of impairment disclosure across the three European country clusters during the period 2010-2011. By using a self-constructed survey based on EY's checklists summarising the disclosure requirements of IFRSs; they found strong evidence that the quality of impairment disclosure is likely to be high for firms audited by one of the BIG4 auditors, firms operating in the oil and gas industry, larger firms, highly leveraged firms, firms with higher intensity of goodwill-impairments, and firms domiciled in Cluster (1) countries in which legal institutions are strong. The overall results indicate that firms from different countries respond/comply differently to the disclosure requirements, despite being subject to the same accounting standards, suggesting that "changing accounting standards alone may not be sufficient to ensure uniform financial reporting across Europe due to uneven enforcement" (p. 7).

Using 8,110 non-financial firm-year observations and 1,358 financial firm-year observations from 21 countries where firms apply IFRSs (either voluntarily or mandatorily) over the period 2005-2011, Glaum et al. (2015) recently investigated the impact of a country's enforcement system on the timeliness of goodwill-impairment losses. Glaum et al. postulate that "the application of the goodwill impairment test may depend on a firm's institutional setting, in particular, its legal environment and the strength of its capital market supervision and enforcement" (p. 2). Their initial results revealed that firms' decisions to impair their goodwill were not only based on market/accounting measures of performance, but also on reporting incentives. Further investigations revealed that goodwill-impairment decisions

were also associated with lagged (i.e., not contemporaneous) stock market returns. This finding may reflect managers' tendency to delay the recognition of any necessary goodwill-impairment losses. However, this finding was sensitive to the effect of enforcement system in the country. That is, the finding was only applicable to firms domiciled in countries with low scores on the audit and enforcement index, developed by Brown et al. (2014). In particular, firms domiciled in countries with relatively high scores on the audit and enforcement index tend to publicly report goodwill-impairment losses in a timelier manner, when compared to their counterparts in countries with relatively low scores on the audit and enforcement index.

2.3 Value Relevance of Goodwill Impairment Losses

In this section, two types of studies are examined; studies which tested directly the value relevance of goodwill impairment losses using models related to the basic Ohlson (1995) model, and studies which examined the relationship between goodwill impairment losses and share prices using a variety of methods, such as the market reaction to the announcement of goodwill impairment losses.

One study, Li et al. (2004) examined a sample of U.S. firms reporting TGIL for the first time during 2002 and 2003. They found evidence that market participants (investors and financial analysts) revise their short/long-term forecasts of earnings downward after the announcement of impairment losses, and their forecasts are revised significantly downward when the impairment loss increases in its magnitude. This evidence supports, but perhaps not quite as strongly, the claim that impairment losses provide new information relevant to the market about the firm's future prospects. Further analysis showed that while the impairment loss was positively associated with indicators of overpayments for initial acquisitions made by impairing firms during the preceding five years, it was negatively

associated with pre-announcement performance indicators over a preceding two-year period (the period in the late 2000 and early 2001 that coincided with the market collapse). This led the authors to conclude that "it appears that, for these firms, the value of goodwill may have been partly impaired at the outset due to initial overpayment for acquisitions and deteriorated further due to the subsequent economic recession and the market downturn in late 2000 and 2001." Overall, their results suggested that an impairment loss could be reasonably predicted by market participants who were able, at least partially, to capture the decline in the economic value of goodwill.

Ahmed and Guler (2007) studied the potential effects that the adoption of SFAS No. 142 may have on the reliability of goodwill write-offs and goodwill balances using a sample of 5680 firm-year observations from 1999-2004. They found a negative and significant association between goodwill (and its impairment losses) and stock returns/stock prices in the post-adoption period of SFAS 142. In general, the evidence suggests that the standard has had a favourable effect on the reliability of goodwill amounts and their impairment losses. They also examined whether the association between goodwill-impairments and stock returns may differ, in terms of its strength, among firms with high and low number of segments[9]. The results revealed that in the post-adoption period, this association was stronger for firms with a high number of segments as compared to their counterparts. These results led the authors to conclude that "the larger the number of segments, the less likely it is that increases in goodwill values in one business unit will offset goodwill-impairments in

[9] It would make more sense if the comparison were made between firms with one reporting unit and firms with more than one reporting unit because under US GAAP goodwill is tested for impairment at the reporting unit level, which is not necessarily an operating segment. It might be an operating segment or one level below an operating segment. Thus, an operating segment could be larger than a reporting unit is and thereby have more than one reporting unit. However, since data on the number of reporting units are not directly available, researchers instead appear to use the number of business/geographic segments.

other business units thereby avoiding recognition of the impairment" (Ahmed and Guler, 2007, p. 11).

In fact, the opposite is equally possible. That is, firms with multiple reporting units have the potential, particularly in the impairment field, to use their accounting discretion opportunistically either by allocating the whole or any part of the goodwill to the usually well-performing units and thereby avoid, or at least minimise, the recognition of impairment losses; or by allocating the whole or any part of the goodwill to the poorly-performing units so as to take a big bath or smooth reported earnings over time (AbuGhazaleh et al., 2011; Shamrock, 2012).

This view is also clearly supported by the results of Bens et al. (2011), who found that the market reacted differently to goodwill write-offs depending on firms' characteristics (such as analyst following, firm size, and number of firm segments) that are likely to affect their ability to implement the impairment test and consequently impact the association between returns and goodwill write-offs. The results show that, on average, stock market returns were significantly (and negatively) associated with the unexpected impairment charges. However, their results also demonstrate that the impairments/returns association becomes less significant for firms with low information asymmetries (i.e., those with high analyst following and high institutional ownership), small-sized firms, and multi-segment firms. The overall results suggest a significant decline in the information content of goodwill-impairments, despite an increased value-relevance of those impairments, which rather came at the expense of their reliability.

These findings are consistent with critics' contention that fair value, as a basis for impairment valuation in goodwill, requires assumptions that cannot be objectively verified or falsified by an external party, and thereby making it harder to implement the impairment test reliably, but at the same time easier for managers to manipulate. This, in turn, is likely to make the outcomes of the impairment test even less informative to investors than they should be. Consistent with view, Watts (2003) wrote, "Assessing impairment requires valuation of future cash flows. Because those future cash flows are unlikely to be verifiable and contractible, they, and valuation based on them, are likely to be manipulated" (p. 22).

On the contrary, using a sample of firms reporting goodwill-impairments at year-end 2001, Chen et al. (2008) carried out their research, and found evidence that goodwill-impairments recognised in 2001 primarily provided new information to the market in 2002, although they were partially impounded in market prices in the prior year. This led the authors to conclude that the application of the impairment model should still be able to provide relevant information to the market, if investors were either partially or totally unaware of the impairment loss, or their assessments were significantly different from the amount recognised. On the other hand, the authors suggest that managers' response and their interventions in implementing the accounting standards remain the Achilles's heel of the impairment model, because managers are more inclined to abuse their discretion allowed by the impairment standards to delay (or accelerate) the recognition of goodwill-impairments to avoid possible negative consequences in a future period. This, in turn, will result in a failure to report or disclose goodwill-impairment losses in a timely fashion, and thereby offsetting the potential benefits that would be realised, if the impairment test was applied in a manner consistent with the impairment framework.

Using a sample of firms reporting goodwill-impairment charges during the period 2002-2005, Jarva (2009) examined whether SFAS 142 had enhanced or weakened the ability of goodwill write-offs to predict future cash flows. He found that goodwill-impairment losses appear to be more directly related to future cash flows following the adoption of SAFA 142, and their predictive power to make forecasts of cash flows remains statistically significant for one and two years ahead (0.206 and 0.188 respectively). Jarva also analysed the impairment avoidance motives by investigating a sample of firms that decided not to impair their goodwill when there is an indication for impairment, labelling them as "the dog that did not bark."[10]Jarva, however, failed to find compelling evidence that managers opportunistically avoid recognising impairment losses, meaning that goodwill-impairment amounts are more closely linked to economic indicants than opportunistic behaviour (e.g. agency-based incentives).

Similarly, Hamberg and Beisland (2009) investigated the effects that the impairment-only approach has had on the ability of accounting information to explain the level of and the change in market values of returns, by using a sample of Swedish companies trading on the Stockholm Stock Exchange (SSE) during the period 2001-2007. Their empirical results reaffirmed the conclusion reached by the IASB that "straight-line amortisation of goodwill over an arbitrary period fails to provide useful information". The authors, also, compared

[10] In reference to one of the most popular Sherlock Holmes short stories "Silver Blaze", written by the British author Sir Arthur Conan Doyle, Scotland Yard's Inspector Gregory ask Sherlock Holmes "Is there any other point to which you would wish to draw my attention?" Holmes replies, "To the curious incident of the dog in the night-time". Gregory says, "The dog did nothing in the night-time." Holmes says, "That was the curious incident." In the case of goodwill, the absence of goodwill-impairment losses, when they are expected (i.e. goodwill non-impairments), provides strong evidence that "companies have strong incentives to manipulate goodwill-impairment testing to avoid reporting a loss or a reduction in earnings" (Chambers and Finger, 2011, p. 41).

the value-relevance of impairment losses before and after the switch from Swedish GAAP to IFRS, and found that the coefficient on goodwill-impairments reported in the IFRS period is small and statistically insignificant (t-stat: 1.46) compared to those reported in the Swedish GAAP period (t-stat: 7.65). The results also revealed that goodwill-impairments under Swedish GAAP have an incremental value-relevance of 4.31% relative to those reported under IFRS (only 0.23%). These findings shed light on the question of whether changes in accounting for goodwill (as suggested by IFRS 3 and SFAS 142) were justified, or turned out to be a one-eyed solution to the amortisation approach that has been so often proved to be irrelevant to investors or has little value-relevance. Consistent with this view, Schultze (2005) argued that goodwill-impairment losses will not only occur as a result of a deterioration of the firm's economic performance, but also will occur due to several reasons even if they are not economically viable. It is the "consequence of an only half-hearted implementation of full-fair-value accounting" (p. 295). For example, the prohibition on the reversal of impairment losses for goodwill creates misleading accounting and "leads to an impairment loss with no economically sensible meaning" (p. 292).

Notwithstanding the above, many authors were tempted to jump to the conclusion that the impairment standard is net beneficial in the sense of providing managers with an unbiased framework to credibly convey their private information and expectations to existing shareholders with regard to their firms' future prospects and growth opportunities, resulting in impairment losses that faithfully represent the economic decline in the current value of goodwill. They base this conclusion on their interpretation of finding negative correlations between goodwill-impairments and firms' economic performance as evidence of the net benefits or the effectiveness of the impairment standard (Ramanna, 2008).

Ramanna (2008) has strongly criticised the feasibility of their interpretation given to findings and the validity of their conclusions drawn from them in two regards. The first is that these studies primarily focused on the recorded impairments in explaining the determinants of goodwill-impairment decisions, whereas firms avoiding impairments were utterly ignored. Ramanna argued that "without an investigation of the extent and causes of impairment avoidance, it is difficult to make conclusions on the net benefits of SFAS 142" (p. 255). The second criticism is that their findings or, at least, some of their findings, can be subject to alternative explanations. Such as, goodwill-impairment losses are used as a managerial strategy to take a big bath now or from time to time, thereby getting rid of all the bad news in one go, and avoiding taking little showers in the future. Due to the difficulties inherent in splitting up goodwill-impairment losses into discretionary and non-discretionary elements, finding any statistically significant relationship between goodwill-impairment amounts and share price performance is not necessarily evidence of an increase in the value-relevance or information content of reported losses.[11]Kvaal (2005) asserts that "the distinction between biased and unbiased impairment accounting is inextricably connected with value-relevance" (p. 54). Alternatively, the recognition of goodwill-impairments may also be explained with reference to management's inability to avoid reporting losses despite the significance of discretion potential under SFAS 142.

Lapointe-Antunes et al. (2009) studied the value-relevance and timeliness of TGIL as reported by Canadian firms, and found evidence that reported losses were negatively (and

[11] Finding a weak association between firms' goodwill-impairment losses and their underlying economics is not necessarily an evidence of managerial opportunism, it may be attributed to the higher frequency and lower average amounts of goodwill-impairments reported after the standard was adopted (Riedl, 2004). However, this claim is not necessarily true, because a higher frequency of small impairment losses could be indicative of low-quality reporting of goodwill-impairments.

significantly) associated with their share prices. This result is useful because it indicates that even though fair value estimates are subject to measurement error and/or managerial discretion, computation of goodwill-impairment losses, which are based on fair value, are often viewed by investors as being sufficiently reliable measures of goodwill depletion. This supports the notion that "reliability is about faithful representation, not precision" (pp. 59).

Using a pooled sample of 528 firm-year observations over the period 2005-2006, AbuGhazaleh et al. (2012) also studied the relationship between UK companies' goodwill-impairment charges and their market value of equity. Their results showed that the amounts of goodwill-impairment losses are significantly negatively associated with the market value, implying that investors perceived these impairments losses as relevant to their firm valuation. Overall, the results suggest the quality of information on goodwill and its impairment has been greatly enhanced after the introduction of IFRS 3, by allowing managers to reliably convey their private information about the expected cash flows of their firms (i.e., consistent with signalling hypothesis).

2.4 Summary

This chapter provides a comprehensive review of the literature concerning studies on the determinants of goodwill-impairment amounts as well as the value relevance of these impairment losses. For the purpose of this study, prior studies are classified into two groups; studies which examined goodwill impairment losses in single country (single-country studies), and studies which examined goodwill impairment across a number of countries (multiple-country studies). The review also includes studies that examined the determinants of write-offs of other intangibles and long-lived assets. The chapter finally discussed studies examining the association between market values and goodwill-impairment amounts, as well as studies examining the market reaction to the announcement of impairment losses.

3 Chapter 3: Theoretical Framework

3.1 Introduction

This chapter reviews the main theoretical approaches in studies on the determinants of goodwill-impairment charges so as to sketch out a complete picture of the conceptual model that will adequately explain the pattern of relationships (inter-relationship) among goodwill-impairment losses and variables capturing firm-and country-specific characteristics. The chapter, then, considers the positivistic theoretical perspective(s), which have been used to interpret the management's goodwill reporting choices. The chapter continues to address the theoretical debates in a broad perspective, rather than a narrow view, which is critical to properly explain national/international differences in goodwill-impairment. The chapter, finally, proposes a theoretical model, which takes into consideration the influence of both internal and external factors on goodwill-impairment amounts.

3.2 The Choice of Theoretical Perspective

According to Hoque (2006), "a major problem confronting a researcher… is which theoretical perspective is most apt" (p. 1). This is no doubt true, particularly in IAR, where accounting researchers hold worldviews that constitute an interdisciplinary perspective on the theory and the practice of accounting (Ryan et al., 2002).

Furthermore, firms' accounting and reporting practices remain locally-oriented and are likely to reflect the cultural, legal, political, and economic conditions under which firms operate. This has led many highly prolific accounting scholars (Zeff, 1971; Wallace, 1987; Choi and Mueller, 1992; Gernon and Wallace, 1995; Ball, 2006; Pope and McLeay, 2011; Sunder, 2011; Wysocki, 2011) to believe that IAR requires an interaction between different theories or different levels of theories (micro/macro), which do not contradict, but rather complement each other. This indicates that cross-country studies are likely to be more

difficult and complicated than those conducted at the national level. As Gernon and Wallace (1995) explain: "seldom was there an effort to draw linkages between theories examined in one era and those examined in another, or to find out whether partial theories could be fitted together into a large, coherent whole" (p. 55).

In addition to these two primary reasons, the lack of a universally-accepted and agreed-upon comprehensive theory (or even a conceptual framework) that can correctly explain why expected behaviour in accounting in similar circumstances may be different or why actual behaviour in accounting in apparently different circumstances may be similar was another reason for difficulty in selecting an appropriate theoretical perspective in the field of international accounting (Nobes, 1998; Wallace and Gernon, 1991; Pope and McLeay, 2011; Wysocki, 2011). Deegan and Unerman (2011) state, "At present there is no single clear theory that explains international differences in accounting practices" (p. 98). As Choi and Mueller (1992) state, "Each individual academic and each individual practitioner has his or her own individually formulated accounting theory to work with" (p. 29).

This, however, does not only apply to accounting theories at the international level, but also applies to any theories of financial accounting on any level. In that regard, Riahi-Belkaoui (2004) states "No comprehensive theory of accounting exists at present. Instead, different theories have been and continue to be proposed in the literature" (p. 108). In fact, the theory, as it currently exists, is far from complete, and this is expected because the world is extremely complex, interrelated and constantly changing. "Complexity and change ensure that we will never have a complete theory of accounting" (Watts and Zimmerman, 1986).

It must always be born in mind, however, that all theories of financial accounting, without exception, have limitations. This is, in part, because theories are by nature abstractions of the real world, and accounting is a human subject. Thus, one cannot really expect that all people will act or react in a similar manner. In this respect, Deegan and Unerman (2011) wrote, "So far no accounting theory has ever been successful in overthrowing all other alternatives" (p. 15). Therefore, it has been suggested that different theories of accounting are likely to provide a fuller and more rebounded perspective. This, in turn, will help us to better understand particular accounting-related phenomena. Difficulties arise, however, when two or more of these theories present diametrically opposite explanations/predictions (Deegan and Unerman, 2011). In such a case, a choice of theory must be made. However, the preference of one theory (or perspective) over the other depends in part on a researcher's value judgement and philosophical assumptions. In this sense, all research is value-laden.

3.3 Philosophical and Theoretical Perspective

Almost without exception, the prior literature on goodwill-impairment has adopted positivistic philosophical/theoretical perspective and methodology. Researchers formulate their research question(s) and develop their theoretical model(s), which specify the hypotheses to be tested. The individual hypotheses were mainly derived from the accumulated body of prior literature (e.g. prior empirical work) and other theoretical considerations (e.g. theory). Researchers who adopt a purely positivistic approach usually rely on arm's length research methods, e.g. quantitative methods that fully dominate the mainstream of goodwill-impairment literature.

On the basis of the critically reviewed literature and bearing in mind that it is not the researcher's primary interest to pass judgement on what constitutes an appropriate practice of goodwill-impairment testing, the positivistic approach is adopted to provide a theoretical

framework and some empirical evidence, which may be of use in the interpretation of management's goodwill reporting choices.

3.4 Theories of International/Financial Accounting

Most goodwill-impairment studies relate differences in goodwill-impairment practices specifically to micro factors, such as firm- and industry- level variables, without regard to the environmental conditions to which all firms in a particular country would be subject, and which vary from one country to another (also referred to as the de-institutionalisation of accounting processes). Therefore, these studies can only be said to provide a partial explanation of the practice of goodwill-impairment, and are often criticised for being inept for explaining accounting differences. This may help to explain the inconsistency of results for the same variables in different studies and/or settings. Furthermore, the studies relied heavily on micro-level theories, particularly Agency Theory (AT) and Watts and Zimmerman's Positive Accounting Theory (PAT), and thereby fail to offer an explanation of differences in accounting practices at the international level.

This helps to explain why scholars in the field of international accounting have been more reluctant to use such theories as a theoretical lens to explain international accounting differences (Hoque, 2006); and why the majority of goodwill-impairment studies deviate from cross-country comparison and narrowly focus on one single domestic context/country by picking up only firms operating in the same country. Nevertheless, influential efforts have been made in recent years (Van de Poel et al., 2009; Amiraslani et al., 2013; Glaum et al., 2013) to embed the process of making goodwill-impairment decision and reporting within its cultural and institutional context (i.e., context-specific), suggesting that goodwill-impairment losses are primarily associated with the specific environment of an enterprise and/or firm- and industry-specific characteristics.

Over the last decades, the globalisation and development of financial markets has made accounting standards and practices increasingly international in orientation (Ryan et al., 2002). IAR has focused upon comparative country studies, whose purpose was to explain the worldwide diversity or disparities in accounting practices in terms of contextual/institutional factors such as culture, economic development, and legal and political systems. IAR has predominantly relied on macro-level theories (i.e., the institutionalisation of accounting processes) without taking into consideration the effects that individual characteristics (such as firm size, ownership and governance structure of the firm, etc.) may have on the financial reporting of the firm, and has therefore been seriously questioned in recent years. It has been argued that future research should aim to consider both micro and macro arguments for the same framework rather than over-emphasise on just one element (Hoque, 2006).

From a theoretical perspective, this requires the development of a meso[12]-level framework, or a multidimensional framework which bridges the gap between the micro and macro levels of theories, and thus provides depth and more comprehensive theoretical basis for understanding the interaction between accounting and the environment in which it operates.

3.5 Micro-level Theories used in Goodwill Write-Off Studies

AT provides a rich theoretical premise[13]for understanding the relationship arising when one party (the principal) appoints another one (the agent) and delegates the authority to make decisions on the principal's behalf to perform a task. Jensen and Meckling (1976) defined

[12] A meso-level theoretical framework is one that links macro- and micro-level theories (Creswell, 2009).

[13] AT has been attractive to accounting researchers because it allows them "to explicitly incorporate conflicts of interest, incentive problems, and mechanisms for controlling incentive problems into [their] models (Lambert, 2001, p. 4).

an agency relationship as "contract under which one or more persons (the principal(s) engage another person (the agent) to perform some service on their behalf which involves delegating some decision-making authority to the agent" (p. 308).

A commonly conceptualised agency relationship is between the owners of the firm, i.e., shareholders/debtholders (the principals) and managers (the agents). The efficiency of the principal-agent relationship is affected by individualistic and opportunistic interests held by each party. Agents, however, may not always act in the best interests of the principals, who may elect to monitor agents' actions and offer incentives through contracts (e.g. salaries), which help align the individual interests of principals (e.g. to maximise firm value) with the agents' interests. Therefore, two potential conflicts of interests are likely to arise between shareholders and managers from one side, and managers and debtholders from the other side. These conflicts give rise to agency costs, such as monitoring cost, bonding cost, and residual costs (Jensen and Meckling, 1976).

In theory, goodwill is deemed to have been impaired when its carrying amount falls materially below its recoverable amount (IAS 36, 2008, Para 90). The difference between the carrying amount of goodwill and its recoverable amount is recognised as an impairment loss (IAS 36, 2008, Para 104). However, in practice, the implementation of the impairment standard requires highly subjective estimates and assumptions, allowing firms managers to more easily justify their accounting choices as to whether or not to take any goodwill-impairments that will affect net income directly. As Riedl (2004) states, "Explicit and/or implicit incentives may exist for managers to manipulate write-off amounts" (p. 824). An accounting choice is defined as "any decision whose primary purpose is to influence (either in form or substance) the output of the accounting system" (Fields et al., 2001, p. 256).

However, the accounting choices related to goodwill-impairments are hardly observable or not observable at all and are usually referred to as covert options (Nobes, 2006), which only exist under the surface of superficial uniformity of accounting standards. Under the impairment standard's subjective criteria, there will always be sufficient room for the exercise of professional judgement, a judgement that partly depends on the environment of financial statement preparers, allowing them a certain degree of discretion and flexibility to determine whether, when, and how much to impair.

Managers will, therefore, make selective choices when testing goodwill for impairment, if they have explicit (via contractual agreement) or implicit incentives to do so. For example, when performing the impairment test of goodwill, managers can be selective in the discount rates employed to estimate the recoverable amount of CGU(s). Managers could also decide to allocate goodwill to well-performing CGUs and thus report zero goodwill-impairment to circumvent debt covenant violation. Thus, the amount (and timing) of goodwill-impairment recognition is still subject to the discretion of the management, who still has an impact on the decision of goodwill-impairments. As Elliott and Shaw (1988) assert that the write-offs of assets "differ from most financial statement information because of greater discretion as to their magnitude and timing" (p. 92).

Managers, who are agents of shareholders, may take advantage of the discretion contained in the impairment standard to manipulate earnings either by not recognising an impairment loss when it occurs, or by recognising it only when it is advantageous to do so (opportunistic perspective). That is, managers are likely to mask their private control benefits, non-value added/maximising activities from outsiders and thereby reduce outside intervention by managing the amount, timing, magnitude, and variability of goodwill-impairment losses

reported. An ample number of empirical studies (Riedl, 2004; Beatty and Weber, 2006; Lapointe-Antunes et al., 2008; Zang, 2008; Ramanna et al., 2009) have found evidence that agency-based incentives, such as big bath and earnings smoothing, lower the association between goodwill-impairments and firms' underlying economic attributes. These results, therefore, suggest, or at least imply that the impairment test of goodwill is often used as means to manipulate reported earnings by either avoiding, or at least minimising the recognition of impairment losses when goodwill actually becomes impaired, or by recording goodwill-impairments only when it is beneficial and suitable for the company management to do so.

An alternative view is that managers may use their accounting discretion in an efficient manner that reflects the economic decline in the value of goodwill resulting from poor past firm performance, or change in firm performance, and declining industry trends (efficiency perspective). Another rationale for accounting choice is the information perspective, postulating that managers exercise their accounting discretion to impart their private information on the firm's expected (future) cash flows (Holthausen, 1990). That is, managers will avoid opportunism and use their discretion in an attempt to make accounting numbers more informative to all users. The difference between the two previously mentioned perspectives and the information perspective is that the first two perspectives (either opportunism or efficiency) affect the firm's cash flows, while the information perspective only provide information on the firm's operating cash flows, without having a direct effect on them (Holthausen, 1990).

The latitude allowed by the impairment standard enables managers to exercise their discretion when performing the impairment test of goodwill. Whether managers

systematically use their accounting discretion either opportunistically (i.e., to make them better-off at the expense of some other contracting parties) or efficiently (i.e., to reflect the firm's underlying economic attributes) alludes to one of the long-standing questions at the heart of positive accounting research.

Watts and Zimmerman (1986 and 1990)[14] proposed three main hypotheses that explain or predict managers' choices of accounting practices.

i) The bonus hypothesis, which proposes that if managers of companies are paid a bonus based on net income, they will be more likely to select accounting methods that maximise their bonus payments;

ii) The debt hypothesis, which proposes that companies close to violating their debt covenants will probably select accounting methods that lead to an increase in the current year's earnings. Researchers have found that the higher a company's debt-to-equity ratio, the more likely it is to adopt income-increasing methods, and thereby avoid violation of debt covenants; and

[14] Since its general inception in the 1970s, PAT has not shown significant development. As Deegan and Unerman, (2011) state, "Since the early days of Watts and Zimmerman, there have been three key hypotheses. A review of the recent literature indicates that these hypotheses continue to be tested in different environments and in relation to different accounting policy issues, even after passing of over 30 years". Sterling (1990) similarly posed the following question: "What are the potential accomplishments? I forecast more of the same: twenty years from now we will have been inundated with research reports that managers and others tend to manipulate accounting numerals when it is to their advantage to do so" (p. 130). In commenting on the lack of development of Watts and Zimmerman's PAT, Fields et al. (2001) state, "Fundamentally, we believe it is necessary to step back from the current research agenda, and to develop the infrastructure surrounding the field. In a sense, the accounting choice field has been a victim of its own perceived success, and has outrun the development of theories, statistical techniques and research design that are necessary to support it. We therefore are calling for a return to work in these basic areas, before the field is able to advance further" (p. 301).

iii) The political cost hypothesis, [15]which proposes that companies subject to political scrutiny will be more likely to adopt income-decreasing methods. Researchers have found that larger firms will adopt accounting methods that reduce accounting income.

In order to explain managers' choice of a particular accounting method, positivist researchers often utilise either the efficiency or the opportunistic perspective of PAT. More specifically, early empirical accounting choice studies that examined the agency costs associated with the above three hypotheses typically adopt the opportunistic perspective, which implies that when selecting particular accounting methods, managers will act in an opportunistic way to maximise their self-serving utility, even at the expense of the other party. For example, when firm managers select particular accounting method(s), it is because the choice will increase reported earnings, and consequently increase their bonus payments. However, subsequent positive accounting research has focused on the efficiency perspective, which implies that managers may select a particular accounting method because the method will best reflect the economic reality of the underlying transactions (i.e., the efficiency perspective), rather than because it will lead to an increase in their bonus. The selection of different accounting methods by different firms is, therefore, justifiable and seems to be the consequence of different firm-specific characteristics (Deegan and Unerman, 2011). For instance, the choice

[15] The hypothesised relationship between management's choice of particular accounting methods and their relative income effects does not necessarily hold for the reasons Watts and Zimmerman's PAT suggests. For instance, the influence of size may be explained by other reasons than are given in PAT. Watts and Zimmerman (1990) argue that, in an attempt to avoid political costs, managers of large companies have greater incentives to reduce earnings figures by selecting an income-decreasing accounting method. In contrast, managers of large firms are less likely to manipulate reported income, since large firms are exposed to greater attention from the public than the smaller ones and, therefore, are exposed to greater pressure from shareholders and market analysts for increased quality of disclosure (Glaum et al., 2013, Amiraslani et al., 2013). This indicates that PAT explanations are, at best, incomplete.

of a particular method of asset depreciation is often explained on the basis that the method most correctly reflects the underlying use of the asset, indicating that firms with different patterns of asset use will adopt different depreciation or amortisation methods/policies.

In practice, however, two notable problems have arisen. The first problem is referred to as the multiple accounting choices problem, which is observed when positivist researchers only consider individual accounting choices while they are studying whether a given firm adopts a particular accounting method, although, at the same time, the firm may also adopt another unsearched accounting method, which may have even opposing effects.[16]Therefore, "considering one accounting method choice from the portfolio of all the accounting choices being made within the firm provides an incomplete picture" (Deegan and Unerman, 2011, p. 306). Fields et al. (2001) similarly document that "managers may make multiple accounting method choices to accomplish a specific goal...examining only one choice at a time may obscure the overall effect obtained through a portfolio of choices" (p. 288).

The second problem is the issue of "multiple, and potentially conflicting, motivations for the accounting choices". As Fields et al. (2001, pp. 290-291) explain:

> "Most of the work … focuses on a single motive for accounting choice decisions...By focusing on one goal at a time, much of the literature misses the more interesting question of the interactions between and trade-offs among goals…For example, what may appear to be an opportunistic choice of an earnings increasing accounting method choice…may be in fact a response to avoid a bond covenant violation)".

In reality, the right choice is not always discernible. It has proven extremely difficult to firmly conclude that the accounting choices exercised by managers are driven solely by

[16] As Deegan and Unerman (2011) explain, "Reported profits are affected by many different accounting choices, some of which may be income increasing while others are income decreasing (thereby potentially offsetting each other)."

opportunistic or efficiency perspective (Deegan and Unerman, 2011). For instance, managers may choose accounting methods that lead to an increase in the stock price before expiration to make exercising the stock options they hold profitable. The choice of the same accounting method may, however, be influenced by the objective evaluation by managers that the firm's current stock price is undervalued. It would, therefore, remain difficult in practice "to distinguish between these two situations, but it is the presence of such mixed motives that makes the study of accounting choice interesting" (Fields et al., 2001, p. 259). This is particularly true because the above two (or three) explanations for accounting choices are overlapping and not mutually exclusive (all may be partial explanation of the observed accounting choices).

Many of the empirical regularities, which had been interpreted/predicted on the opportunistic behaviour of managers, could have also been interpreted/predicted as occurring for efficiency reasons (Holthausen, 1990). In critique of prior studies on earnings management, Fields et al. (2001) raised the question of "whether earnings management is opportunistic or based on performance measurement", and suggested that "this is a difficult distinction and is likely to be time varying and unlikely to be mutually exclusive" (p. 289). Christie and Zimmerman (1994) similarly argued that dichotomizing accounting choices into opportunism or efficiency is unlikely to be the right categorisation, because neither opportunism nor efficiency is likely to explain the variation -on average- in choice across industries and through time. They proposed that,

> "It appears unlikely that either efficiency or opportunism separately is able to explain the rich panorama of observed accounting choices. Future studies should adopt research strategies that incorporate both opportunistic and efficiency rationales to explain accounting method choices" (p. 27).

Whether the opportunism or efficiency motivations dominate – on average- managers' choices of particular accounting methods, one should control for the economic determinants of accounting discretion, such as growth opportunities/potential (e.g. sales growth) and measures of firm performance. Bowen et al. (2008) wrote, "In equilibrium, a well-specified set of economic determinants should adequately describe observed opportunism in accounting discretion if opportunism is expected by the contracting parties and contracted upon" (p. 352). In the context of asset write-offs, "the credibility of a manipulation study's research findings depends on the extent to which the experimental design controls for such economic factors" (Wilson, 1996, p. 172). Similarly, Jarva documents "It is well known that accounting amounts result from the interactions among various features of the financial reporting system (e.g., accounting standards, enforcement, and litigation)" (2009, p. 1083).

Another related issue concerns the relative importance/influence of efficiency and opportunism depends on control mechanisms (or interactions among different control mechanisms) by which self-interested managers are monitored, motivated and disciplined to act in the best shareholders' interests (Christie and Zimmerman, 1994). Such control mechanisms include both internal mechanisms (i.e., firm-level corporate governance), such as monitoring by the board of directors, and external mechanisms (i.e., country-level corporate governance), such as investor protection and securities laws that protect outside investors against expropriation by the insiders (Bushman and Smith, 2001).

Nonetheless, internal corporate governance mechanisms that can reduce the agency conflicts between management and shareholders, are costly, and therefore are less effective and limited in their ability to control the opportunism and self-serving activities (Christie and

Zimmerman, 1994), "In these circumstances, it is not surprising that external means of coercion…can come to play a role"[17] (Shleifer and Vishny, 1988, p. 11).

In addition to being more effective in constraining managers' self-serving actions, Fields et al. (2001, pp. 295-297) stipulated that since "researchers cannot undo the choices that have been made and examine the firm in a controlled environment", researchers should take into their consideration the "environment in which accounting choices are made".

Fields et al. (2001) finally concluded that:

> "Academic accounting research must ultimately address the fundamental questions of whether, under what circumstances, and how accounting choice matters. These questions are difficult because of the complexity of the environment in which accounting choices are made. There may be many (difficult to observe and measure) effects and motivations surrounding each choice" (p. 301).

The same conclusion had been reached many years ago by Thomas (1986, 1988, and 1991), who demonstrated that the choice of disclosure and measurement practices is related to particular differences in circumstances or what he refers to as circumstantial variables, which have hardly been considered at a theoretical level, let alone tested. The term, circumstantial variables, was coined by Cadenhead (1970) to replace the phrase differences in circumstances with an easier and less cumbersome one.

[17] For example, the World Bank have been critical of the uneven auditing standards used by the Big Five accounting firms between developed and developing economies and have blamed the lax auditing standards in some of the Asian countries for part of the crisis in 1998. Countries with relatively strong accounting (high quality of financial disclosure) and capital market enforcement regimes (such as Hong Kong and Singapore) were relatively unscathed by the financial crisis while countries with weaker accounting and enforcement regimes (such as Indonesia and Thailand) saw significant negative impact on their economies (Saudagaran and Diga, 1999).

In other words, accounting choices are situational or situation-specific, depending on the unique characteristics of each circumstance. Therefore, the selection of the most appropriate practice(s) for an enterprise can be explained by the variation in the response to the unique situation being faced. As Thomas (1986) explains, "Management's choice of reporting practices are contingent upon the differing constraints on entities" (p. 254).[18]He further argues that such constraints can be conceptualised in terms of the environment of the enterprise, and its organisational attributes. This strongly suggests that the nature of the contingent factors, which are likely to affect management's choices of accounting practices, can be classified into two types namely: internal and external.

According to Thompson (2011, pp. 68), [19]"organisations find their environmental constraints located in geographic space or in the social composition of their task environments," that is, whether organisations face a relatively homogenous or heterogeneous environment. There are thus two perspectives (physical/ locational and social), which have been brought to bear on the conceptualisation of the environmental variables that are likely to influence accounting and reporting decisions. Similarly, Moll and Hoque (2006) argued that management's choice(s) of accounting practices are often made in response to the multiple

[18] This is consistent with Douglass North, a well-respected economist in the area of institutional research, which defines institution as "the rules of the game in a society or, more formally, are the humanly devised constraints that shape human interaction. In consequence, they structure incentives in human exchange, whether political, social, or economic. …In the jargon of the economist, institutions define and limit the set of choices of individuals" (North, 1990, p. 3). This definition focuses specifically on the role of institutions in monitoring and restricting the ability of individuals, who have incentives to tilt these rules to their own benefit, to engage in opportunistic practices. North understood institutions as the rules of sport, which define the way the game is played, and organisations as the players whose objective is to win the game by fair means and sometimes by foul means. This critically depends on how well these rules are enforced and how severe the punishment will be when the rules are violated.

[19] Originally published in 1967.

(and sometimes contradictory)[20] institutional pressures, implying that "organisations are not passive recipients of the choices of its members or of institutional rules" (p. 14). Furthermore, Elliott and Elliott (2008) asserted that the company's financial reporting practices did not evolve in an environmental vacuum. They are dynamic responses to changing micro- and macro- conditions, which may involve political, social, and economic conditions under which the company is permitted to operate.

Many accounting scholars have also supported this view, who quite consistently argued that different national environments significantly influence the way accounting is regulated and practised, strongly suggesting that accounting does not exist in a vacuum or operates in isolation; it is rather a direct product of circumstances and influences of its national environment in which it operates. Mueller (1968) was one of the first to explain why accounting must respond to changes in environment to survive:

> "In society, accounting performs a service function. This function is put in jeopardy unless accounting remains, above all, practically useful. Thus, it must respond to the ever-changing needs of society and must reflect the social, political, legal and economic conditions within which it operates. Its meaningfulness depends on its ability to mirror these conditions" (p. 95).

Frank (1979, p. 593) documented that

> "If environmental factors play an important role in the development of accounting concepts and practices, and if these environmental factors differ significantly between countries, then it would be expected that the accounting concepts and practices in use in various countries also differ."

In a similar vein, Choi and Mueller (1992, p. 22) argued that

> "If we accept the proposition that the environments in which accounting operates are not the same in different countries or even in different organizations, it stands to reason that accounting must necessarily differ from case to case"

[20] Given the multiple and sometimes contradictory institutional pressures that organisations face, "they will frequently need to be selective in their response to the wider institutional environment" (Moll and Hoque, 2006, p. 190).

In addition, Gernon and Wallace (1995) state,

> "The technical and social aspects of accounting are Siamese twins[21], intricately linked but separated by default… Accounting is not a neutral, but a partisan…The commitment of the new genre has been to eke out theoretical arguments and report on empirical studies by embedding accounting in its organisational and social contexts" (pp. 59-76).

This leads the way to a wave of research aimed at studying the social nature of accounting, and especially what role financial accounting/reporting can play in its social, political, and economic contexts (Ryan et al., 2002).

A review of the literature on international accounting shows that international accounting research (IAR) most commonly takes the form of either (many of these studies are discussed in detail below):

(i) grouping countries on the basis of the similarities/differences either in terms of their accounting standards/reporting practices, or in terms of their institutional/cultural characteristics (e.g. Mueller, 1968; Frank, 1979; Nair and Frank, 1980; Nobes, 1983; Gray, 1988; Doupnik and Salter, 1993, and 1995; Nobes, 1998; Ball et al., 2000; D'Arcy, 2001; Leuz et al., 2003; Leuz, 2010).

(ii) Or testing for differences in certain accounting and reporting practices between firms located in different jurisdictions (e.g. Ali and Hwang, 2000; Guenther and Young, 2000; Jaggi and Low, 2000; Hung, 2001; Bushman et al., 2004; Burgstahler et al., 2006; Bushman and Piotroski, 2006; Lang et al., 2006; Chen et al., 2009).

[21] By the same token, "accounting corruption is likely to accompany socio-political corruption" (Houqe et al., 2012, p. 8).

In both cases, the goal was to provide a complete (or compatible) explanation for international accounting differences, and their results were attributed to particular differences in circumstantial variables. Little attention has, however, been devoted to conceptualizing these potential differences in circumstances. To put it differently, there has been no systematic method to determine either empirically or conceptually what constitutes a significant difference in circumstances, although several attempts had been made to identify the environmental factors that would probably affect the actual reporting and disclosure practices. This, however, has been dealt with on an ad hoc basis (Thomas, 1988).

This, along with the idiosyncratic nature of the conceptualisation process, makes it difficult to identify these circumstances and environmental influences/constraints. In this respect, Schweikart (1985) asserted that "the difficult task is to identify those salient[22]environmental variables which can be expected to affect the decision situation and, accordingly, the information needs of the decision maker" (p. 92). At that time, Schweikart observed that there had been little empirical work to explain accounting differences in different parts of the world, but there was "no formal statement of theory on which to base empirical research" (p. 90). In a similar vein, Gray (1983), cited in Wallace and Gernon, (1991, p. 291) emphasised that "a major difficulty of this type of work is the necessity to develop a comparative framework by which similarities and differences may be evaluated and explanatory variables identified and generalizations developed" (1983, p. 40). Recently, Perera and Baydoun (2007) argued that the association between accounting and its environmental is not addressed in a systematic way, suggesting that very few studies have attempted to develop a theoretical framework that provides a detailed and systematic

[22] The purpose is to explain accounting choices simply in terms of a few selected variables, without attempting to understand the totality of the local context.

explanation of why particular patterns of accounting and reporting practices arise in a particular country. A large number of contingent factors is available, stemming either from empirical work or from theoretical speculation (Otley, 1980).

Radebaugh (1975) was one of the first to provide a detailed description of the environmental variables likely to affect the development of accounting/disclosure practices in developing countries. Nobes (1998) reviewed the literature and confirmed that multiple theoretical models have been proposed in order to identify and classify the reasons for accounting differences at the international level. As Nobes explicates, many of these reasons are interrelated, and in most studies, only a few are included at a time. Occasionally, several are included. A number of these reasons have been identified and firmly established as institutions, and others have been linked to the culture of the country in which enterprises operate (i.e., cultural).

3.6 Macro-level Theories in International Accounting Studies

3.6.1 Hofstede's Theory of Culture

According to Hofstede (2001, p.15), national culture is defined as a "the collective programming of the mind that distinguishes the members of one group or category of people from another".

Culture is a rich area for empirical investigation. There has been a considerable volume of empirical research that touches on the role that national culture plays in influencing managers' accounting choices (Hope, 2003a). In particular, many accounting researchers have used both Hofstede's cultural dimensions and Gray's accounting subcultural values in explaining historical differences in accounting practices across nations (Perera, 1989; Doupnik, 2008; Deegan and Unerman, 2011).

Gray (1988) was recognised as a pioneer in the field of international accounting whose work has made a world of difference over the last twenty-five years. He developed a framework that links cultural characteristics of a particular country with a particular pattern of that county's financial reporting system. Drawing on Hofstede's (1980) initial work, Gray hypothesised that cross-cultural differences play an important role in explaining or predicting different development patterns of accounting systems among nations. He, then, identified four accounting values, which correspond closely to Hofstede's original four dimensions of culture.

During the late 1960s and early 1973, Geert Hofstede (1980) conducted a major study in an attempt to develop appropriate quantitative measures of culture, using more than 100,000 IBM employees from over 50 countries (subsequently extended to 76). As a result of his original study, four dimensions of culture were derived, namely, (1) individualism, (2) power distance, (3) uncertainty avoidance, and (4) masculinity. A fifth dimension, long-term orientation, was added afterwards in order to reflect cultural differences in East-Asian countries.

Individualism refers to the degree to which a society can maintain interdependence between individuals. It relates to one's self-concept: I or we. In an individualist society, there is a preference for a loosely-knit social framework in which people are expected to look after themselves and their immediate families only. In contrast, in collectivist societies, there is a preference for a tightly knit social framework wherein people are bound together and expect their relatives, clan, and tribes to take care of them in exchange for unquestioning loyalty. Power distance refers to the degree to which a society's members accept unequal distribution of power and authority amongst institutions and organisations. Uncertainty avoidance refers

to the extent to which a society's members feel comfortable with uncertainty and ambiguity. Masculinity represents for "a preference for achievement, heroism, assertiveness, and material success" (Hofstede, 1985, p. 348).

Gray states that Hofstede's model of cultural dimensions can affect a country's financial reporting system both directly (through their effects on a country's institutions, such as its legal and political system, capital markets, corporate ownership and so forth) and indirectly through their effects on four dimensions identified at the level of accounting subculture. These include (1) Professionalism; (2) Uniformity; (3) Conservatism; and (4) Secrecy. Professionalism represents a preference for the use of independent professional judgement, and the development of professional self-regulation. Uniformity accounts for a preference for the enforcement of uniform and consistent accounting/reporting practices across firms and over time. Conservatism refers to a preference for the use of prudence and caution approach to the measurement subsets of accounting practices in order to deal with the uncertainty and ambiguity of future events. Secrecy refers to a preference to restrict the disclosure of a company's financial information to its management and its main providers of finance.

Gray suggested that a close association might exist between conservatism and secrecy. Indeed, he found that firms located in countries with low scores on individualism and ranking high in terms of uncertainty avoidance tend to be more conservative in measuring assets or income, and less willing to disclose accounting information to the public, they instead prefer to restrict access to their own accounting files to those involved in management and financing. Gray, however, pointed out that such an association can be established, if and only if, Hofstede's dimensions of culture are accurately measured with sufficient reliability.

Gray suggested that individualism and uncertainty avoidance are, arguably, the most important of Hofstede's cultural dimensions in explaining and predicting different behavioural patterns between accountants from various jurisdictions.

Salter and Niswander (1995) attempted to operationalize and test Gray's hypotheses in twenty-nine different countries to find out whether an association might exist between Gray's accounting value constructs and Hofstede's four dimensions of culture. The results showed that only the uncertainty avoidance construct appeared to be closely associated with all of Gray's accounting values, whereas other cultural dimensions seemed to have no impact on accounting values as anticipated by Gray. In particular, their results showed that uncertainty avoidance was positively and significantly correlated with both measures of secrecy, suggesting that countries with relatively high scores of uncertainty avoidance tend to be more secretive and consequently exhibit low levels of transparency in their financial reporting. In view of the results, Salter and Niswander (1995, pp. 391-392) conclude that "uncertainty avoidance correctly predicts a country's profile in terms of Professionalism, Uniformity, Conservatism, and Secrecy approximately 80% of the time".

However, it must be born in mind that Gray's accounting values can serve only as intervening variables between Hofstede's dimensions of culture and the characteristics one might expect to find in accounting practice. This is because "all of Gray's values are defined in terms of preferences for particular courses of actions rather than in terms of apparent attributes of financial statements, such as the qualitative characteristics described in the FASB's Conceptual Framework project" (Baydoun and Willett, 1995, p. 82). Therefore, one of the difficulties in applying Gray's framework of accounting values is to identify the preferred form and content of financial statements. By following in the footsteps of Professor

Timothy Doupnik, one can confidently conclude that almost none of Gray's accounting values will explain precisely differences in goodwill-impairment practices globally. For example, the accounting value usually connected with measurement, conservatism, does not necessarily provide a good explanation for why companies in culturally-conservative countries intentionally overstate goodwill-impairment amounts. But the opposite can be true in that companies in culturally-conservative countries should be less exposed to impairment (i.e., less likely to have impaired assets), because they tend not to overestimate the book values of their assets, and consequently their market values will always be higher than their book values.

Baskerville (2003), nevertheless, claimed that Hofstede had never studied culture and cast serious doubts on the accuracy of the measurement of Hofstede's cultural dimensions for several reasons.

Firstly, each dimension seemed to be closely associated with several aspects of socio-economic factors, such as population size and growth, the level of education, professional class, GDP, GNP, economic growth, and latitude. The results showed, for example, that low scores of power distance are strongly associated with higher levels of education and a high-status occupation. Results further revealed that a country's wealth, and population explain approximately 58% of the variation in power distance.

Secondly, Hofstede analysed individual differences in attitudes, perception, and human behaviour among IBM employees of different races, ethnic backgrounds, and culture. However, such differences can be in a large part attributed to non-cultural factors, rather than culture alone. Therefore, careful consideration should be given when utilising

Hofstede's theory within the accounting discipline, especially because its scope is limited to a particular organisation, and his findings may not be applicable to other domains. In that regard, Gernon and Wallace documented that the use of Hofstede's cultural values in the arena of international accounting seems "trapped by a paradigm myopia by its reliance on the framework suggested by Hofstede [1980, 1983] for understanding national work-related values" (1995, p. 85).

Thirdly, apart from the difficulties and inherent limitations in using numeric indices and matrices to provide quantitative measures of cultural dimensions, another problem arises from the status of the participant observers being outside the culture. Many IBM employees have come from other countries, and thus may not have a clear picture of the culture, reporting what individuals say they do, rather than observing what they actually do.

Finally, Hofstede's model was based on the proposition that equates nation states with cultures, which is not the case, as one or different kinds of cultures might be identified within one nation state. For example, ninety-eight different types of cultures have been observed in forty-eight African countries, whereas eighty-one different cultures have been identified across thirty-two West European countries (O'Leary and Levinson, 1991). Moreover, in ethnographic studies, the anthropologists conceptualise three distinct types of societies according to their levels of acculturation within a population: monoculturalism, biculturalism, and multiculturalism (Skinner, 2002). For example, Canada is often referred to as a bilingual and bicultural society, whereas Australia has a society with multicultural components.

In reply to Baskerville's criticism, Hofstede (2003) argues that although it is true that nation states are not the best unit of analysis used in studying cross-cultural differences, they are still the only type of units available for comparing cultural differences and similarities, and are still better than nothing.

Despite wide criticism of Hofstede's quantitative measures of national culture, there is no reason why those measures should not continue to be used in comparative accounting research to explain international differences in accounting practices. They are good proxies of the concept of culture, and arguably still the best measures that are available with strong conceptual and empirical support.

As Doupnik (2008) states,

> "None to date has been accepted by the cross-cultural research community as a clear successor to Hofstede. The use of Hofstede's dimensions to operationalise the concept of culture has the benefit that they have been theoretically linked to accounting phenomena (Gray, 1988). They have been shown empirically to be related to cross-national differences in accounting practices (Doupnik and Tsakumis, 2004), and experimentally to cross-national differences in the application of accounting rules (Tsakumis, 2007)" (p. 322).

In his recent response to his critics that country scores become obsolete over time, Hofstede (2011) suggests that cultural change does not occur very quickly; sometimes it takes 50 to 100 years.[23]Therefore, "there is no reason why they should not play a role until 2100 or beyond" (p. 82).

[23] An important feature of cultural dimensions is that they are "generationally stable, reproducible, and relatively resistant to change" (Crothers, 2012, p. 12). Some researchers argue that the elements of culture persist over hundred(s) of years (Esmer and Pettersson, 2007).

In support of Hofstede, Nobes (1998) argued that culture might provide a framework through which countries could be classified into two clusters: culturally self-sufficient and culturally dominated. He suggested that accounting and reporting practices could be easily predicted in countries that are still culturally dominated, or at least strongly influenced, by other countries, due to their inheritance of colonialism. For instance, one could easily predict how accounting works in Gambia (a former British colony), as opposed to Senegal (a former French colony). Nobes then stressed the importance of the colonial inheritance as a major explanatory factor that has always exerted a huge amount of influence over the development pattern of accounting/reporting practices in many countries outside Europe, particularly developing countries, and that influence will continue to overwhelm other environmental factors, such as the strength of a country's equity markets.

Nobes and Parker (2010) pointed out that most of the former British colonies in Africa have an identical, or even very similar, disclosure pattern in their financial reporting, which is dependent largely on that of the UK, even though no equity market exists. This influence has, however, become weaker over time, particularly in the late twentieth and early twenty-first centuries, mainly due to the international influence arising from contextual factors that "had begun to affect accounting in all countries, sometimes overwhelmingly" (Alexander and Nobes, 2010, p. 79). Examples of these factors might include globalisation of capital markets, international harmonisation of accounting standards, and more recently, mandatory IFRSs adoption around the world (Nobes and Parker, 2010). Consistent with this view, Zeghal and Mhedhbi (2006) showed that developing countries that have a capital market and have aspects of Anglo-American culture are most likely to adopt IASs, suggesting that all the influences arising from the former colonial powers are greatly outweighed by the

international influences that come from the increasing internationalisation of accounting standards.

Even previously, Doupnik and Salter (1995) synthesised theoretical frameworks in international accounting to introduce a general model of accounting system development, which links accounting practices with a number of environmental and cultural factors hypothesised as relevant elements of the model. They suggested that an accounting system does not exist in a vacuum, but rather interacts with the external environment, and institutional structure. Therefore, understanding the interrelationship between the accounting system and environment in which it operates has proved useful in reducing cross-national differences in accounting practices and consequently increasing the comparability of financial reporting between countries. The authors pointed out that external environment factors (such as geography, history, colonialism, etc.) are likely to affect a nation's accounting system indirectly through their ability to influence a society's culture and its institutional structures, whereas cultural values can affect the accounting system both directly and indirectly through their influence on a country's institutional structure. Doupnik and Salter postulated a list of environmental factors that are likely to determine the development pattern of a country's financial reporting system, and explain cross-national differences in accounting/reporting practices. These include: (1) a country's legal system, (2) the nature of a firm's relationship with its providers of capital and the development of financial markets, (3) taxation, (4) level of inflation, (5) political and economic ties, (6) a country's education level and its accounting profession, (7) level of economic development, and (8) culture.

Doupnik and Salter did not, however, provide the rationale behind their selection, nor did they stipulate which of these factors were the most common/important factors that contributed to accounting diversity among nations. Besides, Nobes (1998) raised concern over the terminology of their model and its application, suggesting that Doupnik and Salter did not seem to provide a general theory, but rather a mix of theories, for at least two reasons. First, the authors assumed that each country has one accounting system, which is not necessarily the case, because a country could have more than one accounting system in one year and/or over time; for instance, one system for small and medium-sized companies, and another for publicly-listed companies. Second, the authors include ten variables in their general model to control for national differences among nations (four are cultural, and six are institutional) and hypothesise that culture can affect a country's accounting system both directly and indirectly through its influence on institutional structure. This means that there is a strong possibility of double counting or corollary, especially because the authors did not attempt to see whether their variables are interrelated with one another. An important application of corollary is that countries with similar patterns of accounting practices are likely to have a similar culture and institutional structure.

Doupnik (2008) studied the relationship between Hofstede's five dimensions of culture and earnings management practices, such as earnings smoothing and earnings discretion, across a sample of 31 countries. The Results revealed a statistically significant relationship between the two cultural dimensions of individualism and uncertainty avoidance[24]and earnings management, in particular, earnings smoothing, whereas all other dimensions of culture,

[24] These findings are consistent with Han et al. (2010) who provide evidence that the cultural dimensions of uncertainty avoidance and individualism (along with legal environment) are important determinants of managers' earnings discretion practices across countries.

namely masculinity, power distance, and long-term orientation, were found to be insignificant in explaining international variations in earnings management practices. Therefore, managers in uncertainty avoiding and collectivist countries are more apt to smooth their reported earnings to avoid the instability that is likely to arise from potentially negative events, such as reporting losses or decreases in earnings relative to prior periods, violation of debt covenants, and missing analysts' expectations. The results also suggest that national culture explains about 49% of the variations in earnings management. Based on these results, Doupnik concludes, "Culture is a potentially important factor that should not be overlooked. At a minimum, culture should be viewed as a control in future research" (2008, p. 338).

This is consistent with the earlier observation of Gernon and Wallace (1995, p. 91) who state that "it is not that culture is not relevant. But culture should also incorporate institutional factors, especially the role of the state, financial and capital markets, accounting professions, etc." This is discussed next.

3.6.2 Institutional Frameworks Explaining International Accounting Differences

There has been a significant amount of research on the identification and classification of plausible/real causes[25]underlying international differences in accounting/reporting practices. A long list of these causes is found in the writings of Nobes (1998). The most frequently cited are institutional and cultural factors. Institutional factors include, for example, the type of legal, financing, and taxation systems in a country, and its degree of investor protection, as well as its level of equity markets development. Cultural factors include, for example,

[25] Although it is very difficult to directly infer a cause and effect relationship between these factors and accounting differences, relationships can be established, and reasonable deductions and inferences about the strength and direction of these relationships can be made (Alexander and Nobes, 2010; Choi and Meek, 2011).

language, geography, history, colonial inheritance, education, and religion. Some of these factors, such as language and geography, have an explanatory power derived from autocorrelation, while the influence of other factors, such colonialism and imperialism, which explained some of the variations of practices in financial reporting at the international level, has become increasingly weaker over time, because of the growing presence of international influences, which overwhelmingly affected accounting practices in all countries, such as globalisation of the word's stock markets, global convergence of accounting standards, and more recently the worldwide adoption of IFRSs (Alexander and Nobes, 2010; Nobes and Parker, 2010).

There is a widespread consensus, at least conceptually, amongst accounting scholars that despite the adoption (or alleged) adoption of IFRS, accounting and reporting practices will continue to vary systematically at firm, and country levels, which will result in several flavours of IFRSs or different de facto standards in each country. Recent research indicates that national institutions play a crucial role in shaping accounting practices, at least, as strongly as accounting standards (Ball et al., 2000, and 2003; Ball, 2006; Burgstahler et al., 2006; Nobes, 2006; Soderstrom and Sun, 2007; Leuz, 2010).

Nevertheless, there remains considerable controversy about what should count as the main explanatory factors that explain most of the variations of accounting practices in an international context. This is mainly attributable to the lack of a universally agreed-upon, comprehensive theory[26] (or even a conceptual framework[27]) capable of explaining the

[26] International accounting researchers still lack general theory capable of explaining the differences in accounting practices internationally.

[27] Since accounting theory development has been unsuccessful, a change of direction from theorisation to conceptualising has evolved (Choi and Mueller, 1992).

existence of different patterns of accounting and reporting practices across different countries (Wallace and Gernon, 1991; Nobes, 1998; Pope and McLeay, 2011; Wysocki, 2011; Glaum et al., 2013). Many researchers, therefore, are strongly convinced that IAR requires an interaction between different theories, and hence is likely to be more difficult and complicated than those studies conducted at the national level, especially because firms' reporting practices remain locally-oriented, reflecting cultural, social, legal, political, and economic conditions under which firms operate (Zeff, 1971; Wallace, 1987; Choi and Mueller, 1992; Gernon and Wallace, 1995; Ball, 2006; Pope and McLeay, 2011; Sunder, 2011; Wysocki, 2011).

Soderstrom and Sun (2007) have made progress in developing a workable framework (albeit with no statistical support), which provides insights into the determinants of accounting quality across different countries. They argued that accounting quality is largely dependent on (i) the quality of the accounting standards; (ii) a country's legal and political system; and (iii) financial reporting incentives. Those three factors will directly affect financial reporting quality. They, also, discussed how a country's legal and political systems can indirectly impact accounting quality through their influence on the incentives of ownership, financial market development, capital structure and tax system.

Nevertheless, the authors managed to overlook or failed to address the role and relative importance of culture in explaining differences in the properties of accounting output. Another criticism is that this framework puts the emphasis on country-specific institutions, whereas firm-specific incentives and constraints, such as firm-level governance mechanisms, were utterly ignored and overlooked. According to Bushman and Piotroski (2006), "a complete understanding of the realised properties of accounting numbers,

including conservatism, must incorporate the influence of financial reporting incentives generated by existing institutions" (p. 108).

Verriest et al. (2012) also proposed that firm-level corporate governance determines the quality of financial reporting at least as strongly as country-level governance. After controlling for a range of institutional factors, including investor protection, legal enforcement, and securities regulation, they found robust evidence that companies with strong corporate governance will provide more transparent financial reports that are of higher quality, and apply IFRSs more rigorously than those firms with relatively weak mechanisms of corporate governance. In a similar vein, García Lara et al. (2009) examined the influence of corporate governance mechanisms on accounting quality, as measured by earnings timeliness and earnings conservatism. They found that firms with stringent governance provisions tended to report earnings figures that are asymmetrically greater for bad news than for good news, suggesting that strong corporate governance structures have resulted in an increase in the demand for more conservative accounting numbers. However, Bushman et al. (2004) conjectured that the direction of this causal relationship should be reversed, because "where the timeliness of financial accounting information is relatively low, firms will substitute towards relatively more costly monitoring and specific information gathering activities to at least partially compensate for low timeliness of the accounting information" (p. 170). Empirically, it is very difficult, if not impossible, to determine which perspective is more correct. One way to resolve this dilemma is to take the position that both perspectives are correct in the sense that the association between firms' governance mechanisms and the properties of their accounting numbers is reciprocal.

Other accounting scholars (Nobes, 2006; Alexander and Archer, 2011; Choi and Meek, 2011; Nobes and Parker, 2010) have attempted to identify a combination of institutional factors that are likely to be important in explaining the existence of different patterns of accounting practices across countries (or groups of countries). However, many of these studies fail to provide useful insights into issues, such as the potential endogeneity in some of the institutional variables and the interdependencies between macro- and micro-level variables. Nobes (2006) also suggests that some of the variables, which had previously been identified in the earlier literature as being explanators for cross-country differences in accounting reporting practices, are no longer relevant for today's IFRS consolidated financial statements. Nobes, instead, proposed a combination of three main factors, namely (1) a country's legal, (2) financing, and (3) taxation systems that will continue to drive international differences in practice under IFRS.

Chand et al. (2008) studied the reasons for accounting differences that exist in the past, and asked if any of those reasons will continue to hold in the IFRS context. They identified three reasons that explain differences in accounting/reporting practices. These include the nature of business ownership and the financial system, the level of accounting education, culture and experience of professional accountants. Nobes (1998), however, suggests that the level of professional accounting education should be considered as a dependent variable instead of an independent variable. In his words, "differences in professional education may be a result of accounting differences rather than their cause" (p. 172).

Alexander and Archer (2011) proposed that accounting practices in developed nations can be differentiated on the basis of five sets of explanatory variables[28]namely, the relative importance of law; prescription/flexibility; the role of the accounting profession; the providers of finance; and the influence of taxation. They argued that the source of finance remained the most important factor in explaining international variations in accounting practices. For example, firms operating in countries with different patterns of finance tend to adapt their financial reporting to meet the special needs of major suppliers of finance.

3.6.3 International Classifications of Accounting

Nobes and Parker (2010) argued that international classifications in accounting can be divided into those pertaining to the characteristics of accounting standards and/or reporting practices (intrinsic classifications), and those pertaining to the institutional characteristics of countries (extrinsic classifications). The two types of classification closely resemble those proposed by Gray (1988) who identified two approaches to international classification of accounting. First, an inductive approach in which a researcher starts with observing a set of accounting principles and reporting practices in order to identify the general pattern of accounting in a particular country, and provide an explanation (i.e., develop a theory) based on a variety of environmental factors of that country, such as social, economic, legal, political and cultural factors. Second, a deductive approach in which a researcher starts with identifying a particular factor or a particular set of environmental factors that are believed to explain or predict some variation in accounting in order to identify a particular behavioural pattern of reporting practices, which is being widely followed by a set of companies operating within a particular country.

[28] Some of the five variables mentioned above, however, have limited applicability to countries with developed economies, suggesting the need to define other variables, which are peculiar to most developing countries.

It has also been suggested that the research work on international accounting classifications has been done in two ways: Judgemental classifications remain extremely subjective, and rely on descriptive writing or one's own personal knowledge and experience. Empirically-derived classifications use primary or secondary data and apply statistical techniques to determine clusters of countries with identical or even similar pattern of accounting principles and reporting practices (Choi and Meek, 2011). However, most of the classification studies are now primarily of historical interest and remain no longer as relevant as they were fifty years ago (Nobes and Parker, 2010). For the purpose of this study, I focus particularly on those aspects of classifications as long as the update survives in the IFRSs era.

3.6.3.1 Ex-post Classification

Nobes (1998) proposed the adoption of a hierarchical system that classifies countries into groups based on the similarities and/or differences in their financial reporting practices. He suggested a two-class model of accounting systems (Class A versus Class B). The classification parallels the important features of Anglo-Saxon and Continental European models of accounting. Nobes hypothesised that the type of financing systems is associated with a country's financial reporting system. Class A accounting model is more likely to be pronounced in countries with strong equity-outsider systems, such as Australia, the United Kingdom (UK) and the United States of America (USA). In such countries, capital is directly raised from a large number of investors who have an arm's length relationship with companies and have no privileged access to a company's relevant information. Therefore, there will always be a greater demand for high-quality, public, and audited disclosures of an entity's annual financial statements that should accurately reflect the underlying economic reality of the reporting entity. Conversely, countries with weak equity-outsider systems, such as France, Germany, and Italy, are most likely to have a Class B accounting model, since the

majority of companies' shares are held by a small group of individuals, families, banks and the state. Thus, there will be less demand for public disclosure of information about a company's financial performance and its financial position.

Besides, Nobes suggested that differences in the type of legal systems have only limited relevance to the classification of financial reporting systems, even though some connection may exist between a country's legal system and its accounting system. Class A appears to be more pronounced in common-law countries, whereas Class B is associated with code-law countries. However, this distinction is problematic, especially in the case of Netherlands, a country with a code-law system, but also has many aspects of accounting that closely resemble those found in the UK and the US. In recent years, the case has changed since the adoption of IFRSs in Europe. Since 2005, most of the Continental European countries, which are founded on a code-law system, have begun to adopt investor-oriented financial reporting such as is found in Anglo-Saxon common-law countries (Choi and Meek, 2011; Nobes, 2011a).

Nobes also argued that international differences in tax systems play only a small role in affecting the classification of countries' financial reporting system. Countries that use the Class A accounting model are unlikely to be affected by differences in tax regimes, mainly due to the separation between tax and the accounting system. However, such differences in tax regimes can be a major cause of accounting differences within groups of countries using the Class B model, wherein accounting is closely connected with taxation and still serves its tax purposes. However, it is unclear whether the taxation system could be seen as a factor explaining accounting differences (i.e., whether a particular set of accounting practices are affected by tax issues) or vice versa. According to Alexander and Nobes (2010), differences

in taxes might better seen as a result of, rather than a cause of accounting differences, which largely affect the calculation of taxable income.

Several studies provide some empirical evidence on the reliability and validity of Nobes's classification. Guenther and Young (2000) investigated whether the relationship between accounting earnings, measured as aggregate return on assets, and real economic activity, measured as the percentage change in a country's real Gross Domestic Product (GDP) varies between five industrialised countries with different financial reporting and disclosure systems. They found that accounting earnings in the UK and the US are more strongly associated with a real economic activity, as opposed to those of France and Germany. The results suggest that in common-law countries where the financial system is market-oriented, and where there is a separation between taxes and accounting rules, firms report earnings figures that are more reflective of their underlying economic activity.

Furthermore, Ali and Hwang (2000) studied the value-relevance of accounting information (earnings and book value of equity) among manufacturing firms located in 16 different countries. They found evidence of low value-relevance of accounting data in bank-oriented countries; countries whose accounting and reporting practices follow the Continental model; and countries whose measurement practices are strongly influenced by tax rules.

Nobes's classification can be criticised on many grounds. First, Nobes classifies countries according to the differences in financial reporting practices of companies whose financial reports are made available to the public. It is, however, unnecessary for a set of companies operating in a particular country to have similar patterns of financial reporting practices at a given date. Second, it is very difficult to isolate the effects of institutional factors on the

outcomes of financial reporting. For example, Haw et al. (2004) highlight the role of an effective tax enforcement system in restraining the private control benefits enjoyed by insiders (managers and controlling shareholders), and thus enhancing the quality of financial reporting in the country. Third, Nobes proposed a dichotomous classification of accounting systems (Class A and B), which is based on two types of financing systems (strong equity-outsider and weak equity-outsider). However, a particular country might have some elements of both systems, and lie somewhere on that continuum between the two. For instance, in Japan, which is a country with a strong equity market, the majority of public companies' shares are controlled and concentrated in the hands of a few banks (La Porta et al., 2000). Finally, Nobes claims that the objects of his classification are not countries but accounting systems. However, it appears that Nobes's dichotomous classification was based on structural differences, which exist between national financial systems.

Despite all the criticisms that have been brought against Nobes's classification technique, it was suggested that the two-group classification of national accounting systems (Anglo versus Continental European) is still valid in the post-IFRS era (Nobes and Kvaal, 2010; Nobes, 2008, 2010, and 2011). Nobes (2008) investigated whether the previous classification of accounting systems could have predicted and can explain differences in the way in which countries have reacted to IFRSs. He provides anecdotal evidence that countries under the Continental European model, in which tax considerations largely drive accounting practices, have less propensity to allow the use of IFRSs for unconsolidated statements, and do not achieve convergence with IFRSs as quickly as possible.

Using the 2005/2006 IFRS annual accounts of the largest 232 companies listed on the major stock exchanges of five largest IFRS countries (Australia, France, Germany, Spain and the

UK), Nobes and Kvaal (2010) examined whether IFRS accounting policies vary significantly in practice across countries. They compared accounting practices in the pre- and post-IFRS period and found that firms, in the absence of strong incentives to do otherwise, tend to implement IFRSs in a manner that was predominantly followed in their pre-IFRS national practices if, and only if, that is possible or allowed within IFRSs. These results can help to explain (or predict) why firms or, at least, certain firms, in a particular country, pursue a particular pattern(s) of accounting and reporting practices, even when all firms in that country are required to report under IFRSs. For example, Australian and UK firms are expected to exercise IFRS options in a similar manner, as opposed to Continental European firms. It was evident that Australian and UK firms are apt to show net assets in their statements of financial position.

Nobes (2011a) extended the previous study by using the 2008/2009 data that covered 261 IFRS financial statements in eight countries (three further countries were added, including Italy, Netherlands, and Sweden). The purpose of the study was to assess whether the classification of accounting systems into Anglo-Saxon and Continental European is still discernible in the context of IFRS, and applies equally to the measurement and disclosure subsets of accounting practices. Nobes found that the split of eight countries by their IFRS practice confirms the same two-group model (Anglo versus Continental European) of national accounting practices drawn up in 1980.This implies that countries seem adamantly opposed to altering their accounting and reporting systems, despite 30 years of international harmonisation. Finally, Nobes concluded that accounting practices remain deeply rooted in the fundamental differences in country-specific factors, which have resulted in a number of differences in the implementation and compliance with IFRS standards.

3.6.3.2 Ex-ante Classification

According to Nobes (1998), the single most important factor that has caused variations in national accounting practices is the significance of different sources of finance, which is more relevant and more conclusive than other factors, such as a country's legal system, in classifying financial reporting and disclosure systems. Nobes proposed a binary classification of countries based on the relative importance of their sources of finance. The first type is equity-based countries, in which companies use more equity and less debt to finance their investment-decision making, and the second category comprises credit-based countries, in which companies rely more on debt (i.e., bank loans and bonds). Sellhorn and Tomaszewski (2006) discuss the adequacy of the traditional typology of financing systems, and suggest that the primary criterion for classification of countries is "the degree of public accountability to outside investors, that is, whether or not a firm is publicly traded" (p. 188). This criterion, which can overwhelm other factors such as culture and type of legal system, will determine the properties of accounting system in the country.

La Porta et al. (2000), however, voiced scepticism and concern about the usefulness of classification of countries on the basis of their source of finance. One reason for this concern is that equity and debt are not substitutes for one another. La Porta et al. (1997) found that countries with strong equity-outsider markets have, on average, higher levels of private debt (measured as a percentage of their GDP). Another reason is that the classification of certain[29]countries according to their financial structure is neither straightforward nor particularly useful. While it is (relatively) easy to categorise Germany as a credit-based country where the majority of German companies are owned/controlled by few large banks,

[29] This is particularly true since stock markets have become an increasingly important source of finance in many countries, especially those formerly centrally-planned economies, e.g. the Czech Republic and China (Choi and Meek, 2011).

it is difficult to categorise a country like Japan, which has a highly-developed equity market, as well as powerful banks that often wield their influence over companies via equity and debt shareholdings. La Porta et al. conclude that the legal approach[30]can provide a more useful way to categorise countries as opposed to the conventional distinction between equity and debt financing.

Moreover, La Porta et al. (2000) emphasise that country diversity in financial structure will largely depend upon the legal protection of investors for at least two reasons. First, the legal rules protecting outside investors were developed before the establishment of stock markets. In that regard, La Porta et al. (2000, p. 9) wrote that "because legal families originated before financial markets had developed, it is unlikely that laws have been drafted primarily in response to market pressures. Rather, the legal families appear to shape the legal rules, which in turn influence financial markets". Coffee (2001), however, suggests that the reverse also seems true, because stronger securities markets can come first, and demand stronger and better legal protection for investors. Second, a firm's choice of a particular financing pattern depends on the degree to which a country's laws protect minority shareholders' rights against expropriation of managers and/or dominant shareholders, because investors and creditors will not be willing to finance firms if they do not feel that their rights are well protected. This explains why firms in different countries have different financing patterns. In reaching this conclusion, La Porta et al. (1997) empirically examined whether a relationship may exist between the origin of a country's legal system and the development of its stock markets. Their findings show that among the four types of legal origin (British, French, German, and Scandinavian), English common-law countries provide the best protection for their

[30] It should be noted that the legal approach here refers to the extent to which the legal rules protect the rights of minority shareholders and hence the degree to which these rules on the books are actually enforced.

investors, and have more well-developed and widely-held stock markets. Countries with French civil law, however, have the weakest protection of investors' rights, and have the least-developed equity markets,

Ball et al. (2000) provide another framework to classify financial reporting and disclosure systems on the basis of differences in legal and political systems between countries, rather than their methods and sources of financing. They argued that the demand for public disclosure and financial reporting is highly heterogeneous across countries with different legal systems. This demand is endogenously determined by the degree of the political/market influences on the system of corporate governance. The classification of countries into common versus code-law has been used as a proxy for the political influence on financial reporting practice. In common-law countries, wherein the shareholder model of corporate governance is more dominant, ownership is largely separated from management and widely dispersed among a large number of individual or institutional shareholders on an arm's length basis. Accordingly, the problem of information asymmetry between insiders and outside investors will be mainly resolved through the public provision of high-quality financial reporting and disclosure.

Ball et al., on the other hand, suggest that the politicisation of accounting (setting and enforcing accounting standards) in code-law countries has also led to the adoption of a stakeholder model of corporate governance, in which all of a firm's capital, including both debt and equity, is supplied through banks with a close relationship to the firms in which bankers are represented on the board of directors along with other stakeholders including main customers and suppliers, employees and governments. Unlike the shareholder model, the problem of information asymmetry between managers and stakeholders is more

effectively resolved through private communication and thus much less resolved through timely public disclosure of accounting numbers, which are in part determined by the payouts preferences of stakeholder representatives contacting with their firm. Under the stakeholder governance model, accounting earnings are commonly viewed as a pie to be divided among different groups of stakeholders. The firm will pay taxes to governments, dividends to its shareholders, and bonuses to managers and employees.

Ball et al. (2000) were among the first who empirically tested the reliability and validity of the two-group classification in an attempt to find out whether there is a link or association between this classification and a particular type of accounting practices. Their sample included countries with common-law systems namely Australia, Canada, the UK and the US, known as the G4+1 group of Accounting Standards Setters (except New Zealand), and countries with code-law systems, namely France, Germany and Japan. Their results showed that firms in common-law countries tend to report more conservative (accounting) income, and publicly report economic losses in a more timely fashion (than economic gains), when compared to their counterparts in code-law countries.[31]The authors, therefore, conclude that common-law countries have earnings figures that are volatile, more difficult to predict, and paradoxically more informative.

In order to determine whether their results can be generalised across other common-law countries, Ball et al. (2003) replicated their previous study in other contexts, including

[31] Bushman and Piotroski (2006) suggest that these results have to be seen conditional on other institutional factors, such as state's involvement, that affect the demand for conservative accounting income. It was evident that highly state-owned firms residing in common-law countries are more likely to accelerate the recognition of good news (i.e. report gains too early) and defer the recognition of bad news (i.e. report losses too late) relative to their counterparts in code-law countries.

countries from the East Asian countries (Hong Kong, Malaysia, Singapore and Thailand) whose legal systems are based on English common-law and have accounting standards that are similar to those found in other common-law countries. The authors, however, failed to find evidence that Asian countries tend to report economic losses in a more timely fashion than code-law countries. This suggests that despite the fact that the four East Asian countries were formerly under British colonial influence and had inherited parts of common-law institutions; their earnings figures do not have properties similar to those exhibited by UK or US firms.

These latest results appear contradictory to the results obtained in their early study. One possible reason is that the study was subject to a selection bias, because most countries in the sample have higher levels of economic development compared to the East Asian cluster of countries. Therefore, the results can be significantly affected by cross-country differences in the level of economic development and the economic growth rate. For example, a number of researchers have documented that rich countries have better institutions, better enforcement, better markets, better economy, and better financial reporting (La Porta et al., 1998, and 1997; Leuz et al., 2003; Leuz, 2010; Sunder, 2011). Another related reason is that it is still unclear which aspect(s) of common-law institutions have caused the properties of accounting earnings to vary between these two clusters of countries. Since a country's institutions do not exist in isolation from one another, it becomes difficult, or even impossible, to disentangle the effects of the legal system itself from the effects of interacting with other institutional mechanisms (Leuz, 2010; Pope and McLeay, 2011; Sunder, 2011). Consistent with this view, Wysocki (2011, p. 316) states, "It is unclear which, if any, of the

institutions from successful common-law economies can be transplanted to other economies to achieve similar efficient economic outcomes".[32]

Besides a country's origin of legal system, Leuz et al. (2003) provide another framework to identify clusters of countries based on the observed similarities and/or differences in nine institutional variables drawn from La Porta et al. (1997 and 1998). Unlike other studies, which relied on an explicitly predetermined classification of countries, Leuz et al. perform a k-means clustering across 31 countries and identify three clusters of countries that display a particular bundle of institutional traits. The first cluster, comprising countries from common-law systems (except Norway), corresponds to outsider economies with well-developed stock markets, low concentration of outside ownership, better investor protection, and strong law enforcement. The second cluster contains countries from code-law systems, except for Ireland and South Africa, whereas the third cluster consists of countries from both common- and code- law systems. Countries in the second and third clusters share a certain set of institutional characteristics that are typical of insider economies with less-developed equity markets, high ownership concentration, and weak investor protection with the distinction that countries in the second cluster have a higher quality of legal enforcement as opposed to countries in the third cluster. This suggests that classification of common-law versus code-law countries only matters when the quality of legal enforcement is relatively high (as in the first and second clusters). Overall, the results shed some light on the existence of complementarities/interdependencies among a country's institutional arrangements.

[32] In his discussion of the possibility of transferring accounting skills from Anglo-American to non-Anglo countries, Perera (1989) wrote: "the skill[s] so transferred from Anglo-American countries may not work because they are culturally irrelevant or dysfunctional in the receiving countries' context" (p. 52).

Leuz et al. (2003) also investigated whether there are differences in the level of earnings management across these three institutional clusters, and found strong evidence that countries in the third cluster display the highest level of earnings management, followed by countries in the second and first cluster. Earnings management seemed more pronounced in countries with relatively small stock markets, highly concentrated ownership, weak protection of outside investors, and lax legal enforcement.[33]This is because in these countries, insiders find it far less difficult and less expensive to expropriate firm resources, and conceal private benefits of control. Insiders can, for instance, use their accounting discretion to smooth earnings by creating cookie jar reserves in good years to offset losses in bad years.

Seven years later, Leuz (2010) decided to extend the previous study by increasing the number of countries in the sample (from 31 to 49) and by using an updated set of institutional factors drawn from (La Porta et al., 2006; Djankov et al., 2008). Two further variables were included in the cluster analysis: (1) the CIFAR disclosure index constructed by the Centre for International Financial Analysis and Research, which captures the quantity of disclosure that firms provide in their annual accounts, and (2) an updated version of the earnings management index developed by Leuz et al. (2003), which represents an average score of four individual earnings management measures, such as earnings smoothing and manipulation of accruals. Leuz provides strong evidence in favour of the existence of

[33] In an intuitive sense, the results appear to be somewhat contradictory to the work of Lang et al. (2006), who concluded that non-US firms whose shares are listed on the US stock exchanges, but their country of domicile is characterised by weak investor protection, have stronger incentives to manage earnings, less propensity to report losses in a timely manner, and generally lower association between earnings and share price compared to US-domiciled firms. One possible way to solve this dilemma is to argue that the quality of a company's earnings is more likely to be associated with the characteristics of the company's home country than the host country.

institutional clusters, which correspond fairly well but not perfectly with the three types of clusters proposed by Leuz et al. (2003). These include (1) outsider economies (e.g. the UK and US), (2) insider economies with strong legal enforcement (e.g. Austria and Germany), and (3) insider economies with weak legal enforcement (e.g. Brazil and India). These three clusters are similar to those categorizations that have been extensively used in the literature to describe cross-country differences (or similarities) in institutions, such as legal system, cultural attributes, geographical setting, and wealth.

Similar to prior studies (Djankov et al., 2008, La Porta et al., 1997, 1998 and 2006), Leuz (2010) found that a particular set of countries share a similar set of institutional characteristics. That is, countries that score high on one institutional variable tend to score high on the other variable. For example, common-law countries obtained relatively higher scores than others on all institutional variables with the exception of public enforcement of self-dealing regulation and the rule of law index, for which German and Scandinavian countries had the highest scores. Furthermore, Leuz found a statistically significant difference (at the 10% level) in the average CIFAR disclosure and earnings management and opacity scores across all clusters (i.e., 1, 2, and 3). Countries in cluster 1, on average, had the highest scores on both measures of transparency, followed by countries clusters 2 and 1. Overall, the results suggest that financial reporting tends to be more transparent in countries characterised by strong regulation in the securities market (both in terms of rules and in terms of enforcement), and strong investor protection against self-dealing transactions.

It has, however, been argued that many accounting classifications have become blurred, particularly in recent years, for several reasons.

Firstly, Chand et al. (2008) demonstrate that the classification of countries into accounting clusters is highly misleading and incomplete, partly due to the concerted efforts which have been made to harmonise accounting standards globally.

Secondly, Nobes and Parker (2010) suggest that accounting classifications that were based on observing a country's most important institution(s), may come to different conclusions, because of the lack of agreement about which of these institutions are regarded as the single most influential factor that led to a great deal of variations in accounting practices across jurisdictions.

Thirdly, institutional differences still exist, and always will exist between countries within the same cluster. For example, the US is commonly regarded as more litigious than any other country in the Anglo-American world (Clarkson and Simunic, 1994; Coates, 2007; Jackson, 2007).

Finally, Doupnik and Salter (1995) argue that although classification studies proved to be useful for establishing some connection between a particular set of institutional factors and accounting practices, many of them have failed to provide or develop a theoretical framework that explains how these factors could influence the global compliance with accounting standards. Instead, those studies have managed to provide an accurate description of what the world looks like. It has, therefore, been suggested that country-type variables might work better than country-type classification at explaining the diversity in accounting and reporting practices worldwide, since institutional similarities and/or differences between countries are endogenously determined (Ball, 2006). Nevertheless, Ball did not reach a conclusion that will make it easier for a researcher to choose one approach over the other.

He suggests, instead that researchers will be faced with the question of "which approach better explains international differences in financial reporting practice is an interesting and not fully resolved issue" (p. 19).

3.7 The Study's Theoretical Framework

This study suggests that goodwill-impairment amounts are conceptually a function of factors underlying economic/reporting incentives, as well as the unique characteristics of the environment in which firms operates. The review of goodwill-impairment studies - Chapter 2 is sufficient to show empirically that the impairment of goodwill is explained by company/industry level factors. Quite recently, a number of accounting researchers/scholars have, however, highlighted the need to embed the process of making goodwill-impairment decision and reporting within its cultural and institutional context (Kvaal, 2005; Ball, 2006; D'Arcy, 2006; Nobes, 2006; Van de Poel et al., 2009; Amiraslani et al., 2013; Glaum et al., 2015). In particular, Kvaal (2005) pointed out that the impairment losses firms recognise actually reflect other factors than a reduction in the current value of an asset. This indicates a strong need for the inclusion of contextual factors in any regression model, because researchers are unable to completely undo the effects of the environment in which accounting choices are made (Fields et al., 2001).

In favour of this notion, D'Arcy (2006) asserted that "the comparability of accounts is impaired because of different accounting practices – not only due to diversity in international accounting regulations, but also and more prominently as a result of national peculiarities. The impact of accounting rules for goodwill varies significantly due to different environmental factors" (p. 2).

Using Germany and the UK as an example, Nobes (2006) states:

> "In some areas, the tax-driven accounting choices of the unconsolidated statements might flow through to consolidated IFRS statements. For example, asset impairments are tax deductible in Germany (but not in the UK), so there is a bias in favour of them. They might survive into IFRS consolidations in Germany, given the room for judgment in IFRS impairment procedures" (p. 235).

In his 2005-PD Leak lecture, Professor Ray Ball explains when considering pros and cons of IFRSs from the investor's perspective:

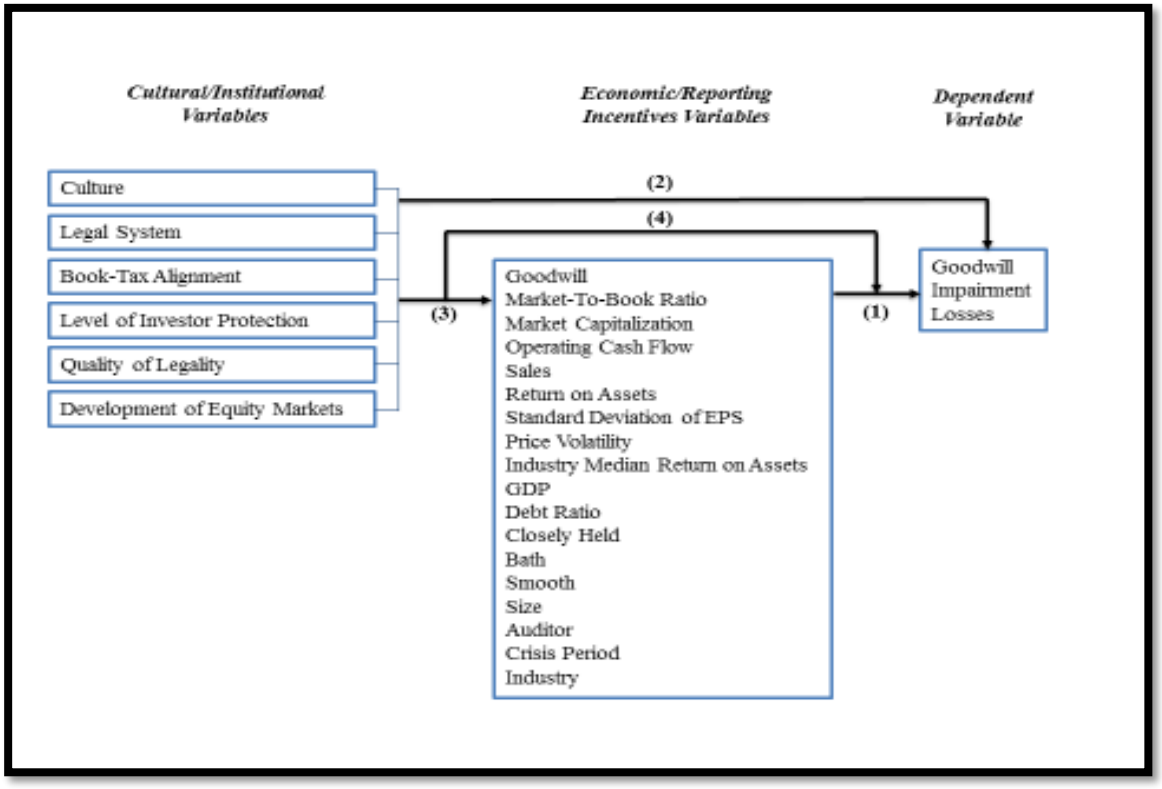
> "Consider the case of IAS 36 and IAS 38... Do we seriously believe that managers and auditors will comb through firms' asset portfolios to discover economically impaired assets with the same degree of diligence and ruthlessness in all the countries that adopt IFRS…? In the event of a severe economic downturn creating widespread economic impairment of companies' assets, will the political and regulatory sectors of all countries be equally likely to turn a blind eye? Will they be equally sympathetic to companies failing to record economic impairment on their accounting balance sheets, in order to avoid loan default or bankruptcy" (Ball, 2006, p. 17).

A careful review of the relevant literature shows that AT/PAT are the most often/widely used theories, which have been adopted by many accounting researchers to explain different national different patterns of goodwill-impairment practice within-and-between firms. However, based on the previous discussions, this study developed a theoretical framework (see Figure 3.1), which takes into consideration the influence of both 'internal' and 'external' factors, rightfully allowing the process of making goodwill-impairment decisions to be placed in its environmental context.

As shown in Figure 3.1, three variables are identified: (i) Goodwill-Impairment Losses; (ii) Economic/Reporting Incentives variables; and (iii) Cultural/Institutional variables that might affect the relationship between the first two. Figure 3.1 shows that goodwill-impairment losses can be directly affected by economic/reporting incentives, and cultural/institutional factors (relationships 1 and 2 in Figure 3.1). I address relationship (1 in Figure 3.1) by analysing the direct impact of economic factors (Goodwill, Market-To-Book Ratio, Market Capitalization, Operating Cash Flow, Sales, Return on Assets, Standard Deviation of EPS,

Price Volatility, Industry Median Return on Assets, and GDP) and managerial reporting incentives (Debt Ratio, Closely Held, Bath, and Smooth) on the amounts of impairment losses recognised on goodwill (relationship 1). Simple indicator variables are used to control for country effects. Next, I address relationship (2 in Figure 3.1) by analysing the direct impact of cultural/institutional variables on goodwill-impairment amounts (along with proxies for economic and managerial reporting incentives).

Figure 3.1 Determinants of Goodwill-impairment Losses (amended from Glaum et al. 2013, p. 175)



Note: The figure shows the theoretical model comprising variables that capture economic/reporting incentives and countries' cultural/institutional characteristics that affect the association between firms' goodwill-impairment losses and their economic/reporting incentives.

Figure 3.1 also shows that goodwill-impairment losses are indirectly affected by country-specific variables (relationships 3 and 4). That is, country-specific variables may function as moderators that affect the strength and/or direction of the relationship between the first two variables (relationship 3 in Figure 3.1), and at the same time they may act as mediators in the relationship between firm-specific variables and goodwill-impairment losses (relationship 4 in Figure 3.1). In other words, county-level institutions can directly, jointly

(moderation effect), and indirectly (partial or full mediation effect) affect the magnitude of goodwill-impairments. The direct effect of company-level variables on goodwill-impairment amounts will be fully mediated by country-level variables, when the resulting parameter coefficients are insignificant (i.e., not statistically significantly different from zero). In the case of partial mediation, the existing relationship between goodwill-impairment charges and company-level variables is reduced considerably in magnitude (i.e., weakened or attenuated), but remains significant.

This suggests that the impairments of goodwill are not always a function of company-level variables, such as firm economic performance and discretionary behavioural indicators. For example, firms that are believed to performing badly do not always recognise impairment losses in their goodwill. However, firms domiciled in countries with strong institutions are likely to report impairment losses following deterioration in their economic performance. In such a case, the significant correlation between goodwill-impairment losses and firm economic/discretionary indicators would be explained by the moderating effect as indicated by relationship (3) in Figure 3.1. Baron and Kenny (1986, pp. 1174-1178) define a moderator variable more specifically as follows:

> "A qualitative…or quantitative…variable that affects the direction and/or strength of a relation between an independent or predictor variable and a dependent or criterion variable…a basic moderator effect can be represented as an interaction between a focal independent variable and a factor (the moderator) that specifies the appropriate conditions for its operation…Moderator variables are typically introduced when there is an unexpectedly weak or inconsistent relation between a predictor and a criterion variable".

From this and other relevant literature, it can be postulated that there are six environmental factors, which are likely to affect the decision-making procedure of goodwill-impairment. These include (1) Culture; (2) Legal System; (3) Book-Tax Conformity; (4) Investor Protection; (5) Quality of Legality; and (6) Development of Equity Market. Some factors,

such as language, geography, colonial history, and religion, have been eliminated on the ground that they are no longer relevant in the IFRS context. Other factors cannot be reliably measured or even assessed, let alone refuted. Instead, I primarily focus on certain institutional/cultural factors that are likely to influence the way goodwill-impairment testing is performed across firms operating in different countries.

3.8 Value Relevance- Theoretical Framework

According to Beaver (2002), "value-relevance research examines the association between a security price-based dependent variable and a set of accounting variables. An accounting number is termed value relevant if it is significantly related to the dependent variable" (p. 459). Barth (2006) attributes the inability to find a significant relationship between accounting information and the market value of equity to one or both of two reasons: lack of relevance and/or lack of reliability. That is, only accounting numbers that are significantly associated with a firm's market value are considered relevant and at the same time sufficiently reliable.

To evaluate the value-relevance of goodwill-impairment amounts, following (AbuGhazaleh et al., 2012) the present study employs Ohlson's (1995) valuation model, in which a firm's market value is a function of its book value, and net income (simply gains and losses). Ohlson (1995) derives the following valuation model, which determines the relative importance of book value and net income:

$$P_t = y_t + \alpha_1 x_t^a + \alpha_2 v_t \,, \qquad (3.1)$$

where (using Ohlson's notation), P_t is the stock price at time *t*, y_t is end-of-year book value of equity, x_t^a is abnormal earnings for period t, and v_t is another non-accounting value-relevant information.

3.9 Summary

This chapter explained the theoretical framework of the study. The purpose of this thesis is to investigate (i) the factors that influence the level of goodwill impairment for a sample of countries across a number of countries (or a group of countries) and the (ii) value relevance of impairment losses across a number of countries.

In relation to the first objective, different theoretical frameworks were examined, which were used in the development of the theoretical framework. Given the international nature of the study (it covers companies from a number of countries) it was necessary to consider theoretical models which explain differences in accounting practices across countries. In addition, agency/positive accounting theory, which provides explanations of accounting choices at a firm level was also examined. The opportunistic and efficiency (along with information) perspectives of accounting choice, which emerge from agency/positive accounting theory, were also discussed.

4 Chapter 4: Hypothesis Development and Research Methodology

4.1 Introduction

This chapter is composed of two main sections. The first section is concerned with the development of research hypotheses, and the second one presents the research methodology utilised for the purpose of this study, as well as the data collection techniques employed in this study.

4.2 Hypothesis Development

4.3 Determinants of Goodwill-Impairment Losses

Drawing on the review of the literature in Chapter 2 and the theoretical debates in Chapter 3, the reporting of goodwill-impairment losses is primarily associated with firm-specific factors as well as country-specific factors (Figure 3.1). On this basis, this section develops a number of hypotheses. These are categorised into groups: first, hypotheses relating to country related variables and second, hypotheses relating to firm-specific variables.

4.3.1 Country-specific Factors

Country relevant variables are related to culture and the country's national institutions.

4.3.1.1 Cultural Factors

Based on Hofstede's five dimensions of culture (uncertainty avoidance, individualism, power distance, masculinity, and long-term orientation), five hypotheses are formulated.

H1 and H2: Uncertainty Avoidance

The central issue underlying uncertainty avoidance is whether a society attempts to control the future, or simply let it happen (Hofstede, 1984). Managers in uncertainty avoiding countries are more likely to intervene and manipulate the timing for recording goodwill-impairment losses, in an attempt to increase their sense of control over future events and

their consequences. In comparison with their counterparts in uncertainty accepting cultures, they will be more inclined to choose income-increasing methods[34] (i.e., report less impairment losses), in their attempt to avoid or reduce the negative effects that are likely to arise following the reporting of goodwill-impairment losses (e.g. violating debt covenants or falling short of analysts' earnings forecasts) (Doupnik, 2008). Based on the above discussion, the following two hypotheses are proposed:

H1: Firms residing in countries with high uncertainty avoidance are more likely to report low amounts of goodwill impairment losses than firms in other countries.

H2: Firms residing in countries with high uncertainty avoidance are more likely to report goodwill impairment losses that do not reflect the economic decline in the value of goodwill than firms in other countries.

H3 and H4: Individualism

Hofstede (1980) suggests that in low individualistic societies, (small) investors expect their firms to look after them from cradle to grave, much like an extended family, and to protect their interests. Managers will tend to adopt policies and practices that increase the welfare of investors, while at the same time increasing- or at least not reducing- their own welfare. This can occur, for example, when managers adopt income-increasing methods [35](Niehaus,

[34] Culturally conservative countries (e.g. code law) do not necessarily report conservative earnings (i.e. their earnings are going to be less).

[35] One might think the opposite is true; that is managers from high individualistic countries are more likely to behave opportunistically and, therefore, report low impairment losses as such losses will affect the reported earnings. This is irrespective of any economic factors that influence goodwill. However, one can easily argue with this statement as opportunistic managers will not necessarily report low impairment losses, they may instead report high losses to take a big bath or smooth earnings. More importantly, individualism/collectivism

1989). As Fernando (2009) explains, investors are more notoriously interested in maximising short-term profits and will, therefore, tend to "approve policies and strategies that yield short-term gains" (p. 484). Reducing or avoiding recognition of potential goodwill-impairment charges can be viewed as a way of meeting investors' expectations. Hence, it is likely to be more common in highly-collectivistic countries. Consequently, managers from countries with relatively high levels of collectivism (i.e., low levels of individualism) are likely to use their impairment discretion opportunistically to manipulate the outcomes of goodwill-impairment testing. This, in turn, will result in a failure to report or disclose impairment losses that correctly reflect the economic substance of changes in the value of a firm's goodwill. In the light of the above discussion, the following two hypotheses can be formulated:

H3: Firms in countries with low levels of individualism are more likely to report low amounts of goodwill impairment losses than firms in other countries.

H4: Firms in countries with low levels of individualism are more likely to report impairment losses that do not reflect the economic decline in the value of goodwill than firms in other countries.

H5 and H6: Power Distance

According to Hofstede and Hofstede (2005), "In large-power-distance countries, accounting systems will be frequently used to justify the decisions of the top power holder(s): they are seen as the power holder's tool to present the desired image, and figures will be twisted to

deals with "I" or "We". That is, in collectivistic societies, managers' choices will depend on the interests of investors and the interests of their own (i.e. the common interest).

this end" (p. 259). If this is true, a negative relation should exist between power distance and the amounts and the quality of goodwill-impairment losses reported. In particular, managers from a high power distance culture might be more inclined to choose accounting methods or manipulate accounting numbers with the purpose that maximise their own profits. To do so, they will use their impairment discretion to understate the amounts of goodwill-impairment losses, and thereby disclose impairment losses that seldom reflect economic reality and so lack relevance. The above discussion leads to the following two hypotheses:

H5: Firms in high power distance countries are more likely to report low amounts of goodwill-impairment losses than firms in other countries.

H6: Firms in high power distance countries are more likely to report impairment-losses that do not reflect the economic decline in the value of goodwill than firms in other countries.

H7 and H8: Masculinity

Masculinity stands for a preference in society for achievement, assertiveness, heroism, and material success. According to Hofstede and Hofstede (2005), in more masculine societies, accounting systems "stress the achievement of purely financial targets more than in more feminine societies" (p. 257). The use of impairment discretion to meet financial targets is consistent with this emphasis. This should highlight the legitimacy of goodwill-impairment losses reported. In countries exhibiting high degrees of masculinity (i.e., low degrees of femininity), managers might be more inclined to perform the impairment test of goodwill, to achieve certain targets, such as avoiding a sharp drop in firm's stock price, increasing CEO pay, or avoiding violation of debt covenants. To do so, firms in countries ranking high

in masculinity tend to deploy their impairment direction opportunistically, understating the amounts of goodwill-impairment losses reported. The above discussion leads to the following two hypotheses:

H7: Firms in countries with high levels of masculinity are more likely to report low amounts goodwill-impairment losses than firms in other countries.

H8: Firms in countries with high levels of masculinity are more likely to report impairment-losses that do not reflect the economic decline in the value of goodwill.

H9: Long-Term Orientation

Managers in short-term-oriented societies are more interested in short-term profits maximisation at the expense of long-term profitability (Hofstede and Hofstede, 2005). In societies with short-term orientation, wherein the focus is on short-term profitability; there might be more use of impairment discretion to improve currently reported earnings by intentionally deferring the recognition of goodwill-impairment losses to future periods. In long-term cultures, however, managers prefer an accelerated pattern of goodwill-impairments losses, in their attempts to *plough back* some (perhaps all) of the profit, rather than to give it out to the owners. This would, in turn, suggest an inverse relationship between the long/short term orientation of a country and the quality of goodwill-impairment losses reported. In the light of the above discussion, the following hypothesis is proposed:

H9: Firms in countries with a short-term orientation are more likely to report low amounts of goodwill-impairment losses than firms in other countries.

4.3.1.2 Institutional Factors

Drawing on the review of literature in Chapter 2 and the theoretical debates in Chapter 3, the reporting of goodwill-impairment losses is primarily associated with company-and-industry-specific factors as well as country-specific factors that potentially affect the relationship between the first two variables. In other words, the relationship between a company's goodwill-impairment amounts on the one side, and its underlying economic attributes and managerial reporting incentives on the other side, is conditional on country-specific factors, such as the quality of a country's overall governance system, and level of investor protection. Therefore, monitoring the association between goodwill-impairment amounts and the firm's economic and financial performance measures is the concern (of standards setters, regulators, investors, etc.) that the impairment of goodwill might reflect managerial opportunism rather than the actual decline in the firm's economic value of goodwill (Brütting, 2011). However, the association between goodwill-impairment losses and micro-and-macro-specific economic and financial conditions will differ according to differences in institutional conditions.

For example, companies operating in countries with high levels of corruption are likely to exhibit a weak association between the amounts of goodwill-impairments and their underlying economic performance, alternatively implying that goodwill-impairments may have a greater association with proxies for managerial opportunism and thus do not reflect fairly faithfully the decline in the economic value of goodwill.

Under the impairment standard, companies are required to impair their goodwill if they observe a reduction in the value of goodwill below its carrying value. However, in the absence of proper enforcement machinery with adequate powers, the impairment standard will continue to remain on paper, suggesting that companies may report or may not report

an economic impairment if the management of the company has explicit or implicit reporting incentives to do so (Riedl, 2004).

H10: Legal System

According to Leuz (2010), legal origin, along with geography and country wealth, are "powerful summary variables that conveniently capture many institutional similarities and differences" (pp. 246). La Porta et al. (1998) compared the quality of accounting systems in different countries and legal traditions, and found that common-law countries have in general better accounting systems than their civil-law counterparts. Past research (Ball et al., 2000; Guenther and Young, 2000; Jaggi and Low, 2000) provides evidence suggesting that firms in common-law countries have a higher level of disclosure quality, and recognise economic gains and losses in a more timely fashion, compared to their counterparts in code-law countries. Nonetheless, one could easily argue that a country's type of legal system is not as relevant, given that many countries now use IFRSs (which were largely derived from UK, US GAAP).

However, Soderstrom and Sun (2007), argue that "the legal system is…very important in determining accounting quality under situations that are not prescribed under IFRS and need an interpretation of the principles" (p. 690). In common-law countries, the interpretation of accounting rules seems to lean heavily/strongly towards a true and fair presentation of the company's financial position results of operations, and changes in financial positions, as they would be perceived from an investor perspective, even if the legal form is not to be strictly adhered to (i.e., substance over form[36]). In contrast, the interpretation, in code-law

[36] Although the principle of substance over form is not explicitly mentioned in the IASB's conceptual framework as a fundamental characteristic of accounting information, it is inherently part of the characteristic of faithful representation (Alexander et al., 2008).

countries, is expected to satisfy the demands of certain stakeholder groups (e.g. banks) at the expense of others (i.e., stakeholder-oriented) (Soderstrom and Sun, 2007; Lhaopadchan, 2010). To keep their creditors satisfied, firm managers may choose conservative or aggressive interpretation of accounting rules, for example, by advancing the timing of the recognition of asset impairments, in order to reduce the payment of dividends (conservative measurements ensure that prudent amounts are distributed), and therefore ensure sufficient funds are available to pay the debt's obligation.

Choi and Meek (2011) also support this view as they suggest that fair presentation dominates the orientation of financial reporting practices in common-law countries. In these countries, financial reporting and related disclosures tend to be more oriented towards providing accurate and useful information to individual investors (i.e., shareholder/investor-oriented). Investors want this information to help them determine the present and possible future economic value of their investments. In code-law countries, however, accounting is legalistic in orientation. In these countries, financial accounting practices are not primarily oriented towards the information needs of outside investors, but rather designed to fulfil the government's requirements, [37]such as calculating taxes and ensuring compliance with the national government's macroeconomic policies/strategies.

It is still not clear, however, why fair presentation continues to dominate accounting practice in most common-law countries, despite the fact that all listed companies in code-law

[37] Nobes (2011a) argues that the opposite is also true. For example, in response to the desire of French financial institutions, the French government persuaded the European Commission to draft a further carve-out from IAS 39, which allows reclassification of any financial assets from the available-for-sale category to the held-to-maturity category on the basis that they would realise more cash by holding the asset and it would not be valued at fair value.

countries follow a non-legalistic approach to the preparation and presentation of their consolidated financial statements (since they now use IFRS, which is aimed at fair presentation). In order to answer this query, it is necessary to differentiate accounting practice at the national level from that at the 'international' level. As Choi and Meek (2011) explicate that in code-law countries, the preparation of individual company accounts will probably be highly legalistic in orientation, whereas the company's group accounts will be oriented towards a fair presentation and substance over form. Under this scenario, "consolidated statements…inform investors while individual-company accounts satisfy legal requirements" (p. 41). The orientation of legal compliance can still, however, affect the parent's company accounts indirectly through its influence on the preparation of the parent company's individual accounts (which must be published as part of the group accounts). In the light of the above discussion, the following hypothesis is developed:

H10: Firms in common-law countries are more likely to report impairment losses that reflect the economic decline in the value of goodwill than firms in other countries.

H11 and H12: Book-Tax Conformity

The alignment between tax and financial accounting rules (IAS/IFRS) has the potential to directly affect the level and quality of accounting information firms disclose. In certain countries, such as Germany and France, wherein there is a close alignment between taxable income and accounting income (i.e., taxable income and accounting income have to be the same), expenses may only be claimed as a tax deduction (i.e., tax-deductible) if they are contained in the profit and loss account. Thus, their financial reporting is driven by their need to minimise taxes (Jindrichovska, 2004; Clatworthy, 2005; Alexander et al., 2007; Hitchner, 2011). A contemporary example is that "asset impairments are tax deductible in Germany (but not in the UK), so there is a bias in favour of them" (Nobes, 2006, p. 235).

Therefore, one can expect that German firms may have greater incentives to recognise more-than-necessary impairment losses, in their attempt to legally reduce the amount of taxes, as opposed to British firms that may take advantage of their impairment discretion, allowing them to avoid (or at least reduce) impairment loss recognition. In order to provide empirical evidence for this proposition, Kvaal (2005) compared the impairment patterns between German and British firms, and found that German companies have generally recognised more impairment losses, when compared to their British counterparts.

Guenther and Young (2000) hypothesise that the level of alignment of financial and tax accounting within a country will have an impact of the association between accounting earnings and economic events that underlie those earnings. They found strong evidence that firms in high book-tax alignment countries generally report earnings figures that are less reflective of their economic attributes. In these countries, firms have an economic incentive to reduce their tax burden by knowingly adopting income-decreasing approaches in selecting accounting methods, resulting in earnings figures that are biased downwards, and thereby less reflective of firm economic performance. However firms in low book-tax alignment countries generally report earnings figures that contemporaneously reflect their economic attributes. In countries in which there exists a low degree of book and tax conformity, "firms are able to simultaneously use financial reporting rules to meet the information needs of investors and tax accounting rules to minimise payments to the government" (p. 58). Nonetheless, it has been argued that influence of tax regulations on financial statements has become weaker over time, particularly during the last twenty-five years (Paananen, 2008).[38]

[38] Today, corporations can choose to prepare up to three different financial statements (i.e. the corporate income tax statements, the individual financial statements according to either local GAAP or IFRSs, and the group's consolidated financial statements according to IFRSs) (Zinn, 2012). Watrin et al. (2012) explain how these three statements can be linked to each other. (1) One-book system in which companies are specifically required

Yet, according to Professor Stephen Zeff, the book-tax conformity played a dominant role in determining preferred accounting practice in many continental European countries until very recent times, and it will likely linger for years to come (Zeff, 2007). The higher the degree of book-tax conformity firms face within a country, the more likely they are to select accounting methods that decrease the base on which taxes are calculated, even though those acceptable or mandatory (as stipulated in an accounting standard) methods may not reflect as accurately and fairly as possible the underlying economic reality of the situation. For example, in order to maximise their tax depreciation allowances, firms traditionally prefer an accelerated pattern of depreciation (or rapid asset write-offs), even if their measure of depreciation may not fairly (not legally) correctly reflect the pattern wherein the asset's economic benefits are expected to be consumed (Guenther and Young, 2000; Zeff, 2007; Nobes and Parker, 2010).

However, it is still not well understood how tax-planning strategies may affect the company's consolidated financial statements, which are mainly prepared to inform investors and other potential users outside the company (i.e., external users). This is particularly true since there is no formal link between the group's consolidated earnings and corporate taxable income. (Zinn, 2012). The tax incentives (or motivations) are only likely to have a direct

to use one set of accounting standards in the preparation of all three financial statements. In this scenario, the amount of the corporate income tax is actually directly calculated using accounting income contained in the accounts of the individual company (i.e. not the group), which, alongside the company's group accounts, have to be prepared under IFRSs (i.e. the tax statements are also based on IFRSs). (2) Two-book system in which companies are allowed, or even, required to use two different sets of accounting standards. Here there are two possibilities (low and high book-tax conformity). The first is that companies prepare their own group and individual accounts using IFRSs, while they use local Tax GAAP to prepare the tax statements. The second is that IFRSs is only required for the consolidated statements, and local GAAP in the individual financial statements as well as the tax statements. (3) Three-book system in which companies use three different sets of accounting standards for all three statements (IFRSs in the consolidated statement, local GAAP in the individual financial statements and 'Tax GAAP' in the tax statements).

effect on the individual company financial statements. In response to these concerns, a number of researchers (e.g. Nobes, 2006; Soderstrom and Sun, 2007; Atwood et al., 2010; Watrin et al., 2012) have indicated various channels through which the effects of taxation are indirectly transmitted to the group's consolidated financial statements prepared in conformity with IFRSs.

Due to the link between the parent company's group accounts and individual financial statements via the consolidation process, the accounting standards applied in the parent's separate financial statements could affect the choice of financial reporting practices that managers follow in their preparation of the consolidated financial statement (Watrin et al., 2012). For example, in situations wherein publicly traded companies are allowed to use IFRSs in their individual accounts -alongside their group accounts- and therefore as a starting point in the calculation of taxable income, managers may take advantage of all of the options available to them to hide profit and avoid taxes (where scope for it exists), given the possibility that IFRSs require the exercise of discretion and independent judgement customarily and regularly (Nobes, 2006). However, in situations wherein individual financial statements and tax statements are required to be prepared in accordance with the company's home country GAAP, companies will have little incentives to report higher income or lower losses in their individual or separate financial statements, which will later be combined or consolidated at the business group level. In other words, companies will primarily seek to minimise rather than maximise their reported income by adopting conservative accounting methods, which can help them avoid or at least reduce their tax payments (Watrin et al., 2012). Thus, their financial statements tend to be biased towards minimising income and taxes, and then the bias (tax minimising) will feed through to their IFRS consolidated financial statements. In this respect, Nobes (2006) wrote: "the tax-driven

accounting choices of the unconsolidated statements might flow through to consolidated IFRS statements" (p. 235).

Recent empirical studies shed more light on in this area to resolve this issue. Atwood et al. (2010) examined the effects of the newly developed measure of required book-tax conformity (i.e., the extent to which managers are allowed to report accounting income that differ from taxable income) on the quality of (consolidated) earnings reported to investors (defined as earnings persistence and the relationship between currently-reported earnings and future cash flows). Their results showed that firms that operate in countries with high levels of book-tax conformity report accounting earnings that are less persistent and less closely associated with future cash flows. The overall results suggest that increasing the required conformity between accounting income and taxable income will reduce the quality of information available to investors and other users of financial statements. Using a sample of European-based companies for the years 2004 to 2009, Watrin et al. (2012) examined empirically the effects of book-tax conformity on earnings management in consolidated statements and found that companies based in countries with a one-book system have a higher level of discretionary accruals in their consolidated statements compared to those in countries with a two-book system. Overall, these results indicate that consolidated earnings tend to be more heavily managed in countries in which there exists a high degree of book and tax conformity. Based on the above discussion, the following two hypotheses are proposed:

H11: Firms in countries with a high level of book and tax conformity will record large amounts of goodwill-impairment losses.

H12: Firms in countries with a high degree of book and tax conformity will report impairment losses that less likely to reflect the economic decline in the value of goodwill.

H13: Investor Protection

It has been emphasised in many earlier studies (Guenther and Young, 2000; Leuz et al., 2003; Lang et al., 2006; Soderstrom and Sun, 2007; Houqe et al., 2012) that the level of investor protection within a country has had, and will continue to have, a profound impact on the quality of financial reporting of its listed companies. As Leuz (2010) explains, differences in shareholder protection across nations "continue to shape firms' reporting incentives" (p. 250).

One way to understand the effect of investor protection laws is that it makes expropriation practices less efficient (La Porta et al., 2000). A weak[39]legal framework to protect minority or outside shareholders creates incentives for insiders to intentionally manipulate reported earnings, in their attempts to disguise firm true performance and hide their private control benefits from the outsiders (Van Frederikslust et al., 2007; Tourani-Rad and Ingley, 2011). However, the ability of insiders to expropriate a private benefit from control is limited by the strength of legal institutions that protect the rights of outside investors (i.e., outsiders are less exposed to expropriation[40]by insiders). Thus, one can expect that in countries where the

[39] In the absence of legal protection of outside investors, not only can the insiders manipulate profits, they can actually "steal a firm's profits perfectly efficiently" (La Porta et al., 2000, p. 6).

[40] Insiders can expropriate outsiders in a variety of ways. La Porta et al. (2000) describe several means by which insiders can siphon off investors' funds. "In some instances, the insiders simply steal the profits. In other instances, the insiders sell the output, the assets, or the additional securities in the firm they control to another firm they own at below market prices. Such transfer pricing, asset stripping, and investor dilution, though often legal, have largely the same effect as theft. In still other instances, expropriation takes the form of diversion of corporate opportunities from the firm, installing possibly unqualified family members in managerial positions, or overpaying executives" (p. 4).

rights of shareholders are effectively protected by the law, firms are less likely to be engaged in unacceptable and illegitimate earning management practices that undermine investors' confidence in the quality and integrity of financial reporting. This is particularly the case since the amount of insiders' private control benefits is lower in countries with strong investor protection than it is in countries with inferior investor protection, and this in turn reduces insiders' incentives to manage accounting reports of firm performance, as insiders have little to disguise from outsiders (Leuz et al., 2003).

Nenova (2000) empirically examined the role of investor protection on the amount of private benefits of control across countries, and found that the benefits that insiders extract from the firms they control are significant in magnitude and tend to vary systematically across countries. The results showed that more than 70% of cross-country variation in the value of private benefits is explained by the quality of investor protection laws and their enforcement. Specifically, managers from countries with a complete lack of investor protection, on average, could enjoy a control value up to 51%, while a maximal improvement in a country's degree of investor protection shed 11% off their private benefits of control. Another study (Dyck and Zingales, 2004) reported that better legal protection of outside investors seems to be associated with a lower level of private benefits of control. These results indicate the emphasis that "when investor protection is strong, insiders enjoy fewer private control benefits and consequently incentives to mask firm performance are moderated" (Van Frederikslust et al., 2007, p. 640).

In 2003, Leuz et al. examined the relationship between the strength of countries' institutions and their levels of earnings management, and found a negative and statistically significant relationship between the level of earnings management and the quality of a country's

investor protection laws (and their enforcement). More precisely, their results revealed that cross-country variation in investor protection laws explained 39% of the variation in earnings management. These results suggest that investor protection is a primary determinant of systematic earnings management practices across countries. More or less similar results were also observed by Lang et al. (2006), who found that companies that are cross-listed in countries with relatively weak local investor protection exhibit more evidence of earnings management, a lower association with share price and less evidence of timely loss recognition.

In line with previous findings, it appears that cross-country differences in earnings quality is endogenously determined by changes in the level of investor protection. Guenther and Young (2000) point out that firms in countries with strong investor protection generally report accounting earnings that are expected to reflect more accurately changes in real economic conditions under which firms operate. Hung (2001) studied the effect of shareholder protection on the relationship between the use of accrual accounting and the value-relevance of accounting information. Hung found evidence that the accrual accounting negatively affected the value-relevance of accounting performance measures. This negative effect, however, was only relevant for firms domiciled in countries with weak legal investor protection; signifying that "strong shareholder protection attenuates the negative impact and increases the value-relevance" (p. 418). Houqe et al. (2012) also found evidence that earning quality increases in countries that offer a relatively strong protection for their investors.

Based on the theoretical discussion and the empirical evidence derived from published literature, I argue that in countries with weak investor protection, managers are more likely to act opportunistically in crafting the disclosure of goodwill-impairment losses and timing

their release. According to Houqe et al. (2012, p. 8), "lower investor protection breeds managerial discretion within the organization, which impedes production of high-quality accounting numbers." Existing research on the disclosure of goodwill-impairment under IFRS showed that firms operating in countries with a high level of investor protection tend to be more inclined to disclose more information on their impairment test (Paananen, 2008; Verriest and Gaeremynck, 2009). Since the impairment standard was written in a way that provides a playing field for potential financial manipulation and earnings management, the degree of managerial opportunism is exacerbated by the lack of legal or institutional investor protection arrangements. Without adequate protection for investors, it is often difficult to effectively thwart illegitimate manipulation of goodwill-impairment charges. However, in countries with a full and perfect protection for their investors, managers have neither the opportunity nor the incentive to manipulate the reporting of goodwill-impairment losses. Even under circumstances where there are strong economic incentives to manipulate earnings via the timing of impairment loss recognition, strong investor protection will prevent, or at least attenuate, such opportunistic behaviour. This leads to the following hypothesis:

H13: Firms domiciled in countries with strong investor protection are more likely to report goodwill impairment losses that reflect the economic decline in the value of goodwill than firms in other counties.

H14: Effectiveness of Legal Institutions (Quality of Legality)[41]

The quality of investor protection laws is considered necessary, but not sufficient, to overcome the agency conflict between insiders and outsiders, which centres on the potential for managers and controlling shareholders to extract private control benefits at the expense of minority shareholders. As Kothari (2000) explains, "If enforcement of shareholder rights… is weak, then the quality of disclosure tends to be poor, regardless of the disclosure standards" (p. 95). It has also been suggested that without effective enforcement mechanisms, even the most comprehensive and well-defined investor protection laws become only a mere paper tiger, which looks good from the outside but is actually weak on the inside, and their constitutional recognition rarely become anything more than cheap talks or dead letters (Krivogorsky and Grudnitski, 2010).

In testimony to the US Senate on September 9, 2004, Sir David Tweedie, Chairman of the IASB, announced, "A sound financial reporting infrastructure must [have] an enforcement or oversight mechanism that ensures that the principles as laid out by the accounting and auditing standards are followed". Similarly, Ken Wild, Deloitte's Global Leader of IFRS, remarked, "You do need enforcement. You do need to make sure that people are not lying. You do need to make sure that people, although not lying, are not misleading" (Wild, 2010, p. 258). To put it in a nutshell, investor protection laws are bound to remain largely ineffective in limiting[42] managers' opportunistic behaviour, unless these statutes are

[41] Following Berkowitz et al. (2003), I use the term legality to capture the broad meaning of the effectiveness of all legal institutions that work to enforce the laws, rather than the quality of legal enforcement, especially it "takes different forms in different countries" (Cai et al., 2008, p. 8).

[42] An efficient enforcement mechanism can only limit managerial discretion to the advantage of shareholders, but cannot eliminate the discretion built into or tolerated in the accounting rules. As Leuz (2010) explains, "Even in a hypothetical world with perfect enforcement, observed reporting behaviour will differ as long as firms have different reporting incentives and the accounting standards offer discretion" (p. 249).

successfully enforced or implemented. Going back to Pound's (1917) famous identification of the gap between "the law in the books and the law in action" (p. 158), legal scholars have long observed that the quality of laws on the books does not guarantee that the laws will be actually enforced, despite the fact that "supplying the right laws on the book will enhance legality"[43] (Berkowitz et al., 2003, p. 1).

Following in the footsteps of legal scholars, accounting scholars (e.g. Ball, 2006; Leuz, 2010), who have also inspired young researchers to follow suit, repeatedly demonstrated that adopting the highest-quality accounting standards does not necessarily lead to high-quality of financial reporting, unless these latter standards are themselves vigorously and consistently enforced across adopting nations. Gibson (2012) clearly suggests that "in the absence of a reliable enforcement mechanism, even high-quality accounting standards can yield low-quality financial reporting" (p. 21). The de facto quality of financial reporting depends upon more than the underlying financial reporting standards firms claim to follow. In particular, "the perceived vigour of enforcement over financial reporting plays a substantial role" (Epstein, 2009, p. 29). High-quality accounting standards are only one piece of the financial reporting jigsaw and, therefore, are not sufficient in their own but needed (i.e., necessary) to produce financial reports that contain good-quality information to investors (Fearnley et al., 2011). This is particularly the case since the world accounting

[43] There has been some criticism of the IASB/FASB's principle-based approach to accounting standards, an approach that gives more discretion to management compared with the rule-based approach, which often leaves far too little room for judgement (Jones, 2011). These financial reporting principles make the enforcement process either impossible, or at best, difficult and costly (i.e. making the cost of complying with these standards are more expensive than not complying), and this will in turn "increase the incidence of fraud and misconduct" (Nwogugu, 2009, p. 1). Leuz (2010) suggests therefore that "reporting rules cannot be designed without considering enforcement, and vice versa" (p. 235).

governing body (IASB)[44], which is in charge of issuing IFRSs, possesses no power to enforce its standards in practice, and instead has relied on national regulatory bodies to ensure that firms traded in their jurisdictions comply with IFRSs (Schipper, 2005; Ball, 2006; Nobes, 2006; Alexander and Archer, 2011).

The lack of a uniform enforcement mechanism at the world level could result in different patterns of compliance in the countries where IFRSs are adopted. This could occur because similar firms that operate in different countries will face different types (private/public) and degrees (strong/weak) of enforcement mechanisms, and are therefore likely to have different reporting incentives (Leuz, 2010). These latter arguably "dominate accounting standards in determining accounting quality" (Christensen et al., 2008, p. 3). Accordingly, inter-country differences in the quality of enforcement mechanism will play a key role in determining the patterns of accounting/reporting practices that all firms in a particular country will follow.

Many empirical studies (e.g. Hope, 2003b; Leuz et al., 2003; Burgstahler et al., 2006; Cai et al., 2008) have produced evidence consistent with the claim that the lack of effective oversight and enforcement of financial reporting standards does not provide proper incentives for managers to constantly improve the quality of company disclosure, but rather provides them with "undue discretion and ultimately allows for incomplete and biased financial reporting" (Glaum et al., 2013, p. 164).

Hope (2003b) investigated the impact of variations in the level of annual report disclosure and the degree of enforcement of accounting standards internationally upon the accuracy of

[44] Unlike the governing body of world football, the Federation Internationale de Football Association (FIFA), the IASB is often regarded as a toothless tiger.

financial analysts' earnings forecasts, and found evidence that strong enforcement is associated with higher forecast accuracy. This finding is consistent with the argument that by constraining potential abuse of accounting discretion through an accounting method choice, strong enforcement mechanisms successfully encourage (or force) consistent implementation of the accounting standards over time. In turn, this definitely helps reduce the incidence of fraudulent financial reporting, and thereby increase the reliability and accuracy of financial reports so that financial analysts face less uncertainty about which accounting methods are used in arriving at reported earnings numbers. A lower degree of uncertainty will inevitably reduce error and dispersion in analysts' forecasts. In fact, forecast error and dispersion are likely to be lower when analysts have access to high-quality accounting information (Preiato et al., 2013).

Most importantly, Burgstahler et al. (2006) provided evidence that earning management is more pronounced in countries where law enforcement is weak. The authors interpreted their findings as suggesting that managers, on average, exploit lax enforcement mechanisms to use the accounting discretion afforded to them in an opportunistic manner to the detriment of shareholders. By contrast, strong legal enforcement can make it harder and more costly for managers to engage in opportunistic earnings management, and instead provide them with the proper incentives to report earnings that accurately reflect economic performance. Using over 100,000 firm-year observations from 2000 to 2006 across thirty-two countries, Cai et al. (2008) examined the impact of the adoption of IFRSs and their enforcement on earnings management. The results clearly show that the strength or reliability of countries' enforcement mechanisms were negatively associated with earnings management, confirming that strong enforcement mechanisms reduce earnings management practices, and thereby improving financial reporting quality in the country.

In the context of goodwill-impairments, Glaum et al. (2013) reported that a higher degree of disclosure compliance with the requirements of IAS 36 appears to be positively associated with the country's level of public enforcement. The finding lends support to the view that "stricter and more rigorous national enforcement systems promote higher levels of compliance" (p. 190). As law enforcement varies significantly across countries, one can postulate to observe uneven level of compliance in different countries.

To illustrate, Amiraslani et al. (2013) propose that country diversity in the quality of enforcement of laws will lead to corresponding diversity and disparity in the speed of economic loss recognition (i.e., timeliness of loss recognition) as well as the quality of financial disclosure. Their test results provide clear evidence that the level of impairment-related disclosure appears to be of higher quality in countries with stringent, strictly enforced laws. More specifically, their results show that in countries that tend to have relatively strong enforcement, companies were found to recognise goodwill-impairment losses in a more timely manner compared to their counterparts in other countries perceived to have weak or lax enforcement. To sum up, the quality of accounting reports and enforcement are positively related. In countries with well-functioning legal institutions, managers and auditors come under heavy pressure to ensure compliance with the accounting standards in a comparable and consistent manner, which reflect the economic reality of the situation (i.e., not a company's preferred view of what the economic reality should be). One the basis of the above discussion, I propose the following hypothesis:

H14: Firms domiciled in countries with better legality are more likely to report goodwill impairment losses that reflect the economic decline in the value of goodwill than firms in other counties.

H15: Development of Equity Markets

In 1997, La Porta, Lopez-de-Silanes, Shleifer, and Vishny published a seminal paper in which they find evidence of an association, (but not causation)[45], between securities market development and laws, especially the degree to which a country's laws protect investors from expropriation. Investor protection does not only include the rights written into the laws (de jure), but also the efficacy of the enforcement of these rights (de facto) (La Porta et al., 2000).

La Porta et al. (1997) hypothesised that enforced outside investors' rights should directly encourage the development of arm's length financial markets, as measured by the number of listed companies and the total market value of all companies listed on the market. They find evidence consistent with their hypothesis. Specifically, they find that countries with poor investor protection laws and poor enforcement of these laws have smaller and narrower securities markets, while countries whose laws and law enforcement offer strong protection for their investors have both high valued and broader equity markets. In order to gain in depth and breadth, equity markets must therefore rely on impartial and potent legal rules that can protect the interests of investors and sustain their confidence.

[45] In contrast, Coffee (2001) argues that the reverse does seem to be true: "strong markets do create a demand for stronger legal rules" (p. 80). For example, the federal securities laws enacted by the U.S. Congress in the 1930s and the Companies Act passed by the British Parliament in the late 1940s were both adopted in response to this demand.

La Porta et al. (1997) argue that the willingness of any firm to go public and raise external finance depends on the terms at which the firm can obtain external finance. When investors are effectively protected against expropriation, they are willing to buy a small fraction of total equity and pay more (i.e., a premium) for a firm's equity shares, inducing more firms to go public and sell more shares. The combination of more firms going public, and selling larger fractions of equity stakes at a higher price will result in larger and more valuable equity markets (Draho, 2004).

This also helps explain the association between ownership concentration and stock market development (La Porta et al., 1998, and 2000; Coffee, 2001), and in particular, why corporate ownership tends to be highly concentrated in countries with poor investor protection (or what makes investment in equity far less attractive to small investors). According to La Porta et al. (1998), "with poor investor protection, ownership concentration becomes a substitute for legal protection" (p. 28). When investors' rights are poorly protected, investors will only feel assured of earning an appropriate return on their investment if they hold blocks of shares sufficiently large to provide a meaningful degree of control over the firms they invest in (Baker and Anderson, 2010).

Several accounting scholars (Alexander and Nobes, 2010; Nobes and Parker, 2010; Choi and Meek, 2011; Deegan and Unerman, 2011) argue that countries with strong equity-outsider markets (e.g. US and UK), where companies are widely-held by arm's length investors, who have no access to internal information, there is a great demand for high levels of public disclosure. This higher demand by external investors for financial data must be met by the supply of higher disclosure levels. In countries where stock markets play an important role in financing, extensive public disclosures are therefore considered necessary. In

contrast, in countries with weaker equity-outsider markets (e.g. Germany and France), where large banks have historically been the dominant suppliers of finance, there is less demand for accounting information, because banks can directly access the internal information of companies they are lending.

The argument thereof was briefly summarised by Ball et al. (2000) as follows: "Demand for public disclosure is high in the case of diffuse ownership corporations, whereas demand for disclosure is muted in the presence of concentrated ownership" (p. 99). These differences in the demand for public disclosure by external investors and, in turn, differences in market development, are likely to affect the level (i.e., quantity) and quality of accounting information (Ball et al., 2000, and 2003; Leuz et al., 2003; Frost et al., 2006). The higher the level of demand for public disclosure, the higher the incentives to improve the quality of accounting information actually reported (Soderstrom and Sun, 2007). Ali and Hwang (2000) empirically investigated the value-relevance of financial reports across different countries and found that countries with low demand for public disclosure adopt accounting practices that produce less relevant accounting data. In such countries, firms are likely to adopt conservative accounting practices to maintain lower levels of earnings (hence pay less or no dividends) (Choi and Meek, 2011).

Moreover, Burgstahler et al. (2006) studied the direct impact that the strength of a country's securities market may have on the quality of corporate reporting, in particular, the informativeness of earnings, and found evidence that publicly-traded firms engage in less earning management when they operate in countries with larger and more active markets in which investors are more willing to participate. The authors interpreted their findings to be the result of the combined effects of both arm's length financing and the development of

securities markets in "either… providing incentives to make earnings more informative or…screening out firms with less informative earnings in the going public process" (p. 3). In addition, Frost et al. (2006) examined the associations between the disclosure level of stock exchange and financial market development, and found a strong evidence suggesting that the level of stock exchange disclosure has been consistently and positively associated with measures of stock market development, even after controlling for other institutional factors.

Glaum et al. (2013) empirically examined the association between measures of stock market size[46]and the level of disclosure of listed companies, and found that higher levels of compliance/disclosure tend to be found in countries with large equity markets. Glaum and his colleagues attributed their finding to the presence of (i) strong competition between companies to attract and retain investors' funds, (ii) regular or continuous monitoring of company management, and (iii) strong demand for high-quality accounting information. In the light of the above discussion, the following hypothesis is developed:

H15: Firms in countries with well-developed equity markets are more likely to report goodwill impairment losses that reflect the economic decline in the value of goodwill than firms in other countries.

4.3.2 Economic/Reporting Incentives Variables

These factors are categorised into economic factors and managerial reporting incentives. The first category is made up of those factors intended to capture the current decline in the

[46] According to Anderson (2004), a large stock market is synonymous with a developed stock market. Thus, a large stock market is one in which a large number of firms list their shares for trading (high stock market capitalisation), and a large volume of trading of these shares takes place (high stock market turnover).

economic value of goodwill. The second category consists of those factors intended to capture the opportunistic managerial exercise of discretion in determining the amounts of goodwill-impairment losses.

4.3.2.1 Economic Factors

According to Wilson (1996), the credibility of the results of assets write-offs studies depends partly on whether or not the analysis controls for the actual decline in the economic value of an asset. A proxy for unbiased expectations of the economic performance of CGU(s) containing the goodwill would be an ideal economic factor. Unfortunately, managers' expectation cannot be observed in the required sense, empirical proxies for economic factors are therefore often employed to capture the actual or economic impairment of the whole part of the company's goodwill (i.e., firm-wide goodwill) (Riedl, 2004).

By the same token, Sellhorn (2004), cited in Brütting (2011, p. 59), suggests that the impossibility, or at least the extreme difficulty, of separating goodwill-impairments into discretionary and non-discretionary elements has made it difficult to model the economic impairment that actually do reflect changes in the firm's goodwill value. Therefore, proxies for economic impairment are often used to encapsulate firm-specific changes in economic performance prior to the occurrence of goodwill write-downs. The objective is to identify whether the underlying economic events motivate the occurrence, timing and the amount of impairment loss recognised. "In general, economic events precede accounting recognition; an event occurs and then it is disclosed" (Elliott and Shaw, 1988, p. 91). For goodwill write-downs, this sequence implies that goodwill has suffered a decrease in value that management has not yet captured. Once management realises that decline in the value of goodwill, they create an accounting entry to record the impairment of goodwill.

Despite being measured at the macro- and micro-levels, proxies for economic (actual) impairment can only attempt to capture the decline in the value of firm-wide goodwill, i.e., not the value of goodwill allocated to its CGU (Riedl, 2004). In identifying the gaps and limitations in prior studies of goodwill-impairment, Brütting (2011) argued that these limitations result, at least in part, from using variables measuring the economic performance of companies and linking them to goodwill-impairment, without regard to the underlying causes of the company's deteriorating financial conditions. This is partly true because companies do not have to make any of their financial information, which relates to such CGU(s), publicly available unless it can stand alone as an independent economic unit (Ahmed and Guler, 2007; Abughazaleh, 2011).

The decomposition of economic factors into microeconomics and macroeconomics conforms closely, if not exactly, with those proposed by the impairment standard (IAS 36, 2008, Para. 12), which identified two main sets of impairment indicators based on the source of information: internal and external. The two sets of indicators are often considered relevant for determining whether an asset is or is not impaired. An example of internal indicator might include "evidence…available from internal reporting that indicates that the economic performance of an asset is, or will be, worse than expected" (IAS 36, 2008, Para. 12, and (g)). An external indicator occurs when "significant changes with an adverse effect on the entity have taken place during the period, or will take place in the near future, in the technological, market, economic or legal environment in which the entity operates" (IAS 36, 2008, Para. 12, (b)).

In studies of asset write-offs and goodwill-impairment, macro-level factors, however, have been almost entirely ignored by most researchers for a technical reason. For example, the

country's GDP is more often dropped from the equation and analysis on the ground that the variable does not vary across entities operating in the same country, and hence does not provide value for explaining changes in goodwill-impairment losses. According to Walker (1999), regression analysis allows a researcher to examine the percentage change in the value of independent variable(s) corresponding to the percentage change in the value of dependent one. This means that, if the independent variable remains unchanged while the dependent variable does, establishing a relationship based on that change becomes difficult.

As in the previous studies which I mentioned in Chapter 2 (e.g. Francis et al., 1996; Beatty and Weber, 2006; Zang, 2008), this study employs ten empirical proxies, which attempt to capture the actual decline in the economic value of firm-wide goodwill. My selection of the ten chosen proxies is based on the premise that impaired goodwill is associated with the firm's poor performance (and risk level), declining industry trends, and the country's overall economic decline. These variables attempt to capture not only the firm's prior performance but also the increase or decrease (i.e., change) in performance relative to the previous year's performance, industry norms, and the overall business cycle. These economic factors were deemed by management to (collectively and/or individually), have constituted triggering events necessitating an evaluation of goodwill for impairment. It is therefore suggested that firms experiencing economic difficulty are likely to report large amounts of goodwill-impairment as part of management responses to worsening economic circumstances. Elliott and Shaw (1988) find that "the write-offs occur during a period of sustained economic difficulty" (p. 114).

H16: Size of Goodwill

The relative size of goodwill on the balance sheet (GW) is measured as the opening balance of carrying value of goodwill in the current year divided by total assets at the end of a prior

period. The size of the firm's goodwill represents one of the main characteristics of goodwill (the importance of goodwill) and serves as a proxy for the actual impairment of goodwill (Zang, 2008; Abughazaleh, 2011). Prior studies (Lapointe-Antunes et al., 2008; Zang, 2008) argue that companies with material amounts of goodwill on their balance sheet are more likely than others to disclose material charges for impairment of goodwill, since large amounts of goodwill can be exposed to impairment-testing. Thus, based on the above discussion following hypothesis can be proposed:

H16: Firms with higher amounts goodwill will record higher impairment losses.

H17: Market-To-Book Ratio

The firm's market-to-book ratio (M/B) is measured as the market value of equity divided by the book value of equity (adjusted for goodwill write-offs) at the end of t. This variable is intended to proxy for a company's growth potential. High growth companies tend to have high market-to-book ratios. Beatty and Weber (2006) argue that companies with high growth potentials are often less likely to impair their goodwill. "Probably they have less of a reason to do so since their market value is high" (Verriest and Gaeremynck, 2009, p. 18). The variable also attempts to capture the intensity of goodwill-impairment losses (Beatty and Weber, 2006; Ahmed and Guler, 2007). According to the impairment standard (IAS 36), goodwill should be tested for impairment immediately, when certain triggering events or changes in circumstances occur. One of the main events and circumstances, which could potentially lead to the recognition of impairment loss, occurs when "an asset's market value has declined significantly more than would be expected" (IAS 36, 2008, Para. 12, (a)), or when "the carrying amount of the net assets of the entity is more than its market capitalisation" (IAS 36, 2008, Para. 12, (d)).

Since the impairment test of goodwill is performed at the level of CGUs (i.e., not at the asset-specific level), companies are required to determine the recoverable amount of CGUs to which goodwill is assigned and compare it to the CGU's carrying amount. When the carrying amount is being valued at more than the recoverable amount, it is inferred that goodwill has been impaired and must be written down. However, the information about the market/book value of CGUs is not publicly available, making it difficult to compare the two values and arrive at an accurate conclusion about the impairment of goodwill (Riedl, 2004). Researchers treat the whole firm as one cash-generating unit by assuming that the carrying value of CGUs is equal to the book value of equity, and the recoverable value of CGUs is equal to the market value of equity (Abughazaleh, 2011). Therefore, researchers often turn to the firm's own market-to-book ratio (M/B) as a potential indicator of the impairment of goodwill (i.e., whether a firm is more or less likely to impair).

Trading at a market value that is below book value (a firm's market-to-book ratio less than one) is often interpreted as an indication that goodwill will be tested for impairment. Testing goodwill for impairment does not necessarily lead to recognition of an impairment loss but does present the possibility of incurring such a loss. Therefore, one must not only consider the decline in the market value below book value, but also the "duration and severity of difference" (Jacobs, 2008, p. 64). Therefore, it is suggested that the larger and more sustained the deviation between the book value and market value, the more likely it is that an interim test of impairment is appropriate. Francis et al. (1996) justified their use of the mean change in the firm's book-to-market ratio over the five years preceding the year of the write-off, on the grounds that "impairment may not occur at a discrete point in time, but may follow a more general decline in firm performance" (p. 1222). In lights of the above discussions, the following hypothesis can be formulated:

H17: Firms with higher M/B ratios will record lower amounts of goodwill-impairment losses.

H18: Growth of Market Capitalisation

The growth of the company's market capitalisation (ΔMRKT_CAP), also known as the market value of equity, is measured as the difference between market value at the end of the current fiscal year minus market value at the end of the previous year, scaled by lagged market value. In testing goodwill for impairment, the company's market capitalisation is often considered relevant. The decline in the stock price is believed to affect corporate decisions on goodwill-impairment (Verriest and Gaeremynck, 2009). Hence, when share prices fall, a company should consider whether this is a trigger event for goodwill-impairment test. In his speech delivered December 2008, Robert G. Fox III, the SEC's Chief Accountant, made it very clear that "goodwill-impairment…requires the use of judgment. For many…this judgment may be more challenging in the current environment due to recent market declines that indicate that a potential impairment exists" However, a falling stock price in itself is neither necessary nor sufficient for the recognition of goodwill-impairment. However, a company should evaluate market capitalisation over a reasonable period of time and consider other factors such as the duration and severity of the stock price decline. One should expect to see large amounts of goodwill-impairment as a consequence of a sustained, prolonged and significant decrease in the company's market capitalisation. The above discussion results in the following hypothesis:

H18: Firms with higher market capitalisation growth will record lower amounts of goodwill-impairment losses.

H19: Growth in Sales

The change in sales (ΔSALES) is measured as the difference between the firm's sales at the beginning and end of the period divided by the total assets at the beginning of the period. The variable is intended to capture accrual-related performance attributes and represents a "gross measure of firm performance, which reflects more of the recoverability of an asset's value" (Riedl, 2004, pp. 831). Prior studies (e.g. Riedl, 2004) predict that reporting goodwill-impairment losses is negatively associated with a change in sales. They found evidence that impairing firms exhibit worse financial performance relative to non-impairing firms. More specifically, Abughazaleh (2011) found that the impairing firms had a significantly lower median change in sales than non-impairing firms. Ahmed and Guler (2007) also found that the mean and median change in sales were considerably lower among firms reporting impairment losses. In the light of the above discussions, the following hypothesis can be formulated:

H19: Firms with higher sales growth will record lower goodwill-impairment losses.

H20: Change in Operating Cash Flows

The change in operating cash flow (ΔOCF) is measured as the difference between the firm's cash flow from operating activities (or operating profit) at the beginning and end of the period deflated by one-year lagged total assets. The variable captures the cash-related attributes, and represents a net measure of firm performance (Riedl, 2004). Under the impairment standard (IAS 36), companies are required to calculate the recoverable amount of CGUs to which goodwill belongs and compare it to the carrying amount to determine whether an impairment loss has taken place. The recoverable amount is the higher of fair value less costs to sell and value in use. In practice, making a reliable estimate of fair value less costs to sell of an asset is not always possible, especially if there is no active market for

the asset, so that companies use the asset's value in use as its recoverable amount. The asset's value in use involves calculating the present value of its future cash flows. However, understanding the past and current cash flows can help managers in forecasting future cash flows expected to be received from the asset and hence, determine its value in use.

Similar to Riedl (2004), it seems most appropriate to use a backward-looking measure of cash flows (i.e., the previous year's cash flows), because managers' best estimate of future cash flows is presumably conditioned on information available to the managers at the time they evaluate an asset for impairment. Therefore, the variability of a firm's cash flows (over the period proceeding and/or leading up to the reporting of goodwill-impairment) is the overall key driver that determines the amount of any impairment charge. This is because the change (increase or decrease) in the amount of cash flows is likely to affect the calculation of the asset's recoverable amount materially, which pursuant to IAS 36, will be used to determine whether or not an impairment loss should be recognised. Thus, based on the above discussion following hypothesis can be proposed:

H20: Firms with higher cash flows from operating activities will record lower goodwill-impairment losses.

H21: Change in Return on Assets

The change in the firm's return on assets (ΔROA) is measured as the difference between the return on assets ratio at the beginning and end of the period. Return on assets is another measure of a company's past performance. Prior studies suggest a negative correlation between a company's pre-write-offs performance and the write-offs of goodwill. This indicates that the poorer the company's past performance, the greater the likelihood and magnitude of impairment losses reported would be (Francis et al., 1996; Riedl, 2004).

Chalmers et al. (2011) also indicate, "better-performing firms are less likely to experience events giving rise to goodwill-impairments" (p. 652). In lights of the above discussions, the following hypothesis can be formulated:

H21: Firms with a higher return on assets will record lower goodwill-impairment losses.

H22 and H23: Firm Risk

In order to capture the risk level of the firm, I include the standard deviation of the earnings per share (EPS) over the seven-year period (Earn_Volt) and a measure of the fluctuations in the market price of security (Price_Volt). "The greater the distance between a stock's averages…high and low prices, the greater is its volatility—and the greater is the short-term price risk in owning the stock" (Lofton, 2007, p. 280). Beatty and Weber (2006) propose a positive association between the firm's level of risk and the amounts of impairment losses recognised on goodwill. They acknowledged that "riskier firms should write off a larger percentage of their goodwill" (p. 272). In lights of the above discussions, the following two hypotheses can be formulated:

H22: Firms with higher earnings volatility will record higher amounts of goodwill-impairment losses.

H23: Firms with higher price volatility will record higher amounts of goodwill-impairment losses.

H24: Industry-specific Performance

To capture the economic performance of the industry within which companies operate, I include a firm's industry-adjusted rate of returns on assets (ΔIndMd_ROA). Previous studies

(e.g. Francis et al., 1996; Riedl, 2004) hypothesised that companies in a declining industry may suffer an impairment in their goodwill, and will therefore report higher amounts of goodwill-impairment charges. In contrast, firms in a fast-growing industry are often less likely to experience impairment in their goodwill. If a firm's return on assets outperforms its industry peers, the firm's goodwill is less likely to have been impaired. Based on the above discussion, the following hypothesis is proposed.

H24: Firms operating in well-performing industries will record lower goodwill-impairment losses.

H25: Macroeconomic Performance

According to the impairment standard (IAS 36), the occurrences of adverse changes in the business cycle may qualify as triggering event for goodwill-impairment testing (Para. 12 (b)). To capture the potential impact of the overall business cycle, I include the percent change in a country's GDP (ΔGDP) from t-1 to t. Riedl (2004) argues that "negative changes in GDP are indicative of overall economic decline," implying that "firm assets may suffer concurrent reductions in value" (p. 830). Similarly, Van de Poel et al. (2009) argue that other things being equal, a fall in a real GDP growth rate will negatively affect the fair values of a firm's cash-generating unit(s). During periods of economic stagnation or decline, asset values tend to be lower. This may likely lead to the carrying value of the assets increasing more than their recoverable amount, and create the need to write down their book values. Based on the above discussion, I propose the following hypothesis:

H25: Firms operating in countries with higher GDP growth will record lower goodwill-impairment losses.

4.3.2.2 Managerial Reporting Incentives

As discussed in Chapter 2, the literature review showed a number of variables drawn from AT that will explain the level of goodwill impairment losses.

H26: Financial Leverage[47]

The task of outlining the empirically observed or theoretically plausible relationship between goodwill-impairment charges and the amount of debt in a firm's capital structure is likely to be difficult for at least two reasons. First, the existence of two opposing viewpoints (both have theory and evidence in their favour), concerning the impact that firm debt financing has on managers' discretionary accounting decisions (i.e., downward vs. upward earnings management). Second, the problem created by using debt ratios, rather than the actual debt covenants,[48]to measure a firm's closeness to its potential debt covenant constraints (the higher the debt/equity ratio, the closer the firm is to violate its debt constraints), leading to inconsistent results.

Several researchers (e.g. Fields et al., 2001; Riedl, 2004; Georgiou, 2005) have raised serious concern about the validity of debt ratios as a proxy for the firm's proximity to violating its debt covenant limits. According to Georgiou (2005), "firm leverage is a relatively noisy and poor proxy for closeness to covenant limits" (p. 326). Though, a number of alternative measures have been suggested. For example, Riedl (2004) argued that private debt seemed

[47] Under the current impairment standard, goodwill-impairment losses are no longer charged against equity. They are instead charged directly against income of the period in which incurred. Similar to (Abughazaleh, 2011; Amiraslani et al., 2013), I use debt-to-asset ratio, rather than debt-to-equity ratio. This suggests that an increase in the amounts of goodwill-impairments will directly lead to an increase in the firm's debt-to-asset ratio, due to the decrease in the total assets.

[48] Since the information on the actual debt covenants is not readily accessible, especially for private debt agreements, debt ratios (debt-to-equity and debt-to-asset ratios) are often used as an adequate proxy to test for the debt-covenant hypothesis (Brütting, 2011).

more appropriate as a proxy, because "private debt is more likely to have financial covenants than publicly issued debt" (p. 833). In light of these constraints, an attempt is made to suggest a tentative relationship between goodwill-impairment amounts and the degree of financial leverage.

Financial leverage is often used to examine the debt-covenant hypothesis, under which a highly leveraged firm is likely to make income-increasing accounting decisions to avoid a violation of its debt agreements (Watts and Zimmerman, 1990). On the basis of this hypothesis, one would expect to observe two things. First, firms with higher levels of debt financing are positively associated with higher likelihood of debt covenants violation. Second, managers of highly-leveraged firms tend to engage in the upward management of earnings to relax debt covenants (Alsharairi, 2012). Research in the area of asset write-downs has already provided some useful insights into accounting-based debt covenants. Riedl (2004) found evidence that the impairments of long-lived assets were negatively associated with the presence of private debt. The evidence was in favour of the proposition that "private debt is more likely to have covenants affected by write-offs" (p. 833-834).

Beatty and Weber (2006) also provide additional evidence indicating that managers of firms with tight debt covenants appeared to have recorded lower amounts of goodwill-impairment losses. Similarly, Lapointe-Antunes et al. (2008) report that firms with higher levels of debt financing than their industry peers have incentives to record relatively smaller TGIL. Zang (2008) also found consistent evidence that firms with higher levels of financial leverage report lower goodwill-impairment losses. One would therefore expect that "non-impairers to be more leveraged than impairers, because only the moderately leveraged firms could afford an impairment loss" (Kvaal, 2005, p. 38).

The above discussion suggests the likely plausibility of a negative relationship between the firm's financial leverage and the amounts of goodwill-impairment losses reported. If this scenario governs goodwill-impairment decisions, it will then become possible to predict that firms with higher debt levels are likely to report goodwill-impairment losses that are of low quality (i.e., discretionary, or biased), in the sense of being unfaithfully representative of the current decline in the value of the CGUs to which goodwill is attributable (Kvaal, 2005). Consistent with this view, Feltham et al., (2007) found that during a period of poor performance, managers of highly levered firms have incentive to produce less accurate and biased information in order to minimise the likelihood of both violating debt covenants and detecting bias in financial reports.

Despite the wealth of theoretical models and empirical evidence supporting the so-called debt-covenant hypothesis, the question is not unambiguous. There is also theoretical reason as well as empirical evidence opposing this hypothesis, by arguing "investors take larger debt levels as a signal of higher quality" (Harris and Raviv, 1991, p. 311). From an agency theoretical point of view, debt can be seen as an internal control mechanism able to monitor the performance of management to verify that managers use their own competence and the firm's resources in the best possible ways.

In reference to the resurrection of what he called active investors, Jensen (1993) argues that large debt holders, like large shareholders, have large investment in the firm, and therefore may attempt to monitor management actions in an unbiased way. However, this is not necessarily true. Shleifer and Vishny (1997) emphasise that large debt holders, particularly banks, have the power not only to view firm management and policies from a monitoring point of view, but also to interfere in the strategically important decisions of the firm. "Their

power comes in part because of a variety of control rights they receive when firms default or violate debt covenants". Along a similar line, Harris and Raviv (1990) study the role of debt on investors' information and their ability to oversee management, and reported that high levels of debt act as a disciplining device and generate useful information that can be used by investors to monitor and if necessary restrain managerial opportunism.

In the context of asset write-downs, several researchers (Strong and Meyer, 1987; Elliott and Shaw, 1988; Zucca and Campbell, 1992) report that write-off firms tend to have higher levels of debt ratios. In the light of this, it is quite plausible to suggest a positive relationship between firm leverage and asset impairments. The literature also suggests the plausibility of a positive relationship between firm leverage and the quality of impairment disclosure. In a more recent study, Amiraslani et al. (2013) find evidence that firms with high levels of debt have high-quality impairment reporting. This result, however, left us with the question of why a positive relationship is sometimes found between financial leverage and the quality of impairment disclosure. A possible explanation for this finding could be that firms with higher degrees of debt ratios will have their asset values under increasingly close scrutiny by debtholders, who suffice themselves as being able to constrain managers' opportunistic reporting choices and therefore "force the recognition of existing impairments that reflect the underlying performance of the firm" (Abughazaleh, 2011, p. 174). Alsharairi (2012) also highlight the role that debt holders can sometimes play in restricting managers from using their accounting discretion to manage earnings opportunistically, thereby improving the credibility of the company's financial reports.

Based on the opposing viewpoints and conflicting evidence regarding the role of debt on managers' choices to report goodwill-impairment losses, this study investigates the

association between goodwill-impairment amounts and the degree of financial leverage, but makes no explicit prediction about the direction of relationship. In light of the above discussion, the following hypothesis is developed:

H26: There is a significant association between the level of leverage and goodwill-impairment amounts.

H27: Concentration of Outside Ownership[49]

When ownership (widely dispersed among individual shareholders) and control (in the hands of management) is separated, as is usually in widely held (or management-controlled) corporations, a conflict of interest (or agency problem) is likely to arise between managers and corporate shareholders. Several studies (e.g. Dhaliwal et al., 1982; Niehaus, 1989; Hart, 1995), suggest that in companies with a wide dispersed ownership pattern, managers have a reasonable degree of discretion over the choice of accounting methods.

In contrast, "managerial discretion is likely to decrease as the concentration of outside ownership increases" (Niehaus, 1989, p. 270). Concentrated ownership by large

[49] Similar to Amiraslani et al. (2013) and Glaum et al. (2013), this variable is measured at the firm level (the number of closely held shares/the common shares outstanding) rather than at the average country level. The reason is fourfold. First, the goal is to understand the effect of the ownership structure of firms on the amounts of goodwill-impairment losses firms report. The unit of analysis is, therefore, (or should be) the individual firm, especially because firms are the ones perceived to have large shareholders (not the countries). Second, there is no need for aggregating individual-level data to the country level, because firm-level data on ownership concentration is readily available. Third, country averages eliminate all within-country variation in ownership concentration. Fourth, and most importantly, the aggregation bias (usually referred to as Simpson's Paradox) is likely to arise, when country averages are used. The key point is whenever averages are composed of unequal numbers of observations, the correlation and regression coefficient will reverse sign between aggregate and individual data, implying that results at the aggregate level do not automatically carry over to the individual level (Holderness, 2008).

shareholders is likely to reduce the agency problem between managers and outside shareholders by increasing the level of monitoring (Levis and Vismara, 2013). This is because major shareholders owning large blocks of shares, have enough money at stake and the power to make it worthwhile to closely monitor managers and try to influence their decisions. However, when the ownership of a corporation is concentrated in the hands of few large shareholders (dominant shareholders), who exert full control over managers, as is the case in closely-held (or owner-controlled) corporations, the nature of the agency problem shifts away from the classic agency conflict between shareholders' and managers' interests to agency conflicts between minority shareholders and large controlling shareholders (Fan and Wong, 2002). As Shleifer and Vishny (1997) cautioned "Large investors may represent their own interest, which need not coincide with the interest of other investors in the firms" (p. 758). For example, dominant shareholders may use their control rights to extract private benefits at the expense of small shareholders (Leuz and Wysocki, 2008). This problem is referred to as tunneling, a term coined by Johnson et al. (2000) to describe "the diversion of corporate resources from the corporation (or its minority shareholders) to the controlling shareholder" (p. 26).

The nature or sign of the influence that a firm's ownership may have on managers' accounting choice(s) relating to goodwill-impairment (i.e., whether, when, and how much to impair) depends on the ownership control status of the firm (i.e., whether a firm is a management- or owner-controlled). In an early attempt to derive a positive theory of accounting, Watts and Zimmerman (1978) assume that firm managers do not select accounting methods in a random manner. They rather suggest that managers' selection of a particular accounting method largely depends on its relative income effect. If this were true, then it would be expected that managers in firms with widespread ownership are more likely

to select accounting methods with different income effects than the accounting methods chosen by closely held firms.

Dhaliwal et al. (1982) examine the relationship between the firm's ownership control status and the accounting methods chosen by a firm, and find that widely held firms are more likely than closely-held firms to adopt accounting methods that lead to "high and/or early reported income" (p. 44). In doing so, managers maximise both their own utility and that of the dispersed owners, so that they can make (or at least keep) them satisfied and unwilling to support any hostile takeover attempts, and thereby secure their own reputation for excellence.

Astami and Tower (2006) provide empirical evidence showing that companies with lower levels of ownership concentration are more likely to pursue income-increasing accounting methods. In the context of the thesis's objects of investigation, one would expect that managers of firms with a wide dispersion of ownership are likely to use the discretion available in the goodwill-impairment standard in order to manage the level and variability of reported earnings. Existing research on goodwill-impairment (Lapointe-Antunes, 2005) provides evidence consistent with this hypothesis. The evidence suggests that widely held firms tend to report relatively lower impairment losses in an attempt to avoid scrutiny and intervention from outside shareholders, who are unlike controlling shareholders, have no direct access to the information necessary to evaluate the performance of past acquisitions and consequently determine if the value of goodwill is impaired.

On the other hand, Dhaliwal et al. (1982) suggest that managers of closely held firms do not have the same incentives to adopt income-increasing accounting methods as managers of

widely held firms do. It has been hypothesised that in closely held (i.e., owner-controlled) firms, managers will be more likely to adopt accounting methods, "which lower or delay reported income" (p. 44). This is because large shareholders are more likely to be concerned with deferring income and accelerating deductible expenses and losses in order to minimise their tax payments (Smith, 1976), and/or to keep dividend payments low or non-existent (large shareholders may use their controlling position in the firm to pursue strategies that may directly benefit them at the expense of small shareholders) (Shleifer and Vishny, 1997; Fernando, 2009). Niehaus (1989) found evidence that *ceteris paribus*, an increase in the concentration of outside ownership will lead to an increase in the probability of choosing an income-decreasing method. In a recent study, Ramalingegowda and Yu (2012) also provide evidence suggesting that companies with a high level of institutional ownership report more conservative earnings. Based on the above discussion, the following hypothesis is derived:

H27: Firms with a higher level of outside ownership concentration will record higher amounts of goodwill-impairment losses.

H28: Big Bath and Earnings Smoothing

A number of studies (e.g. Zucca and Campbell, 1992; Riedl, 2004; Zang, 2008; Van de Poel et al., 2009) reveal that asset write-downs are not always driven by the decrease in the assets' economic value. Quite often asset write-offs are used as a vehicle to manipulate reported earnings by utilising what Warren Buffett referred to in his letter to the shareholders of Berkshire Hathaway (1988) as "white lie" techniques, such as big bath and earnings smoothing.

In particular, it has been revealed that big bath and/or earnings smoothing are consistently more dominant in its association with asset impairments than economic factors are. On the

one hand, it has been hypothesised that firms with an impaired asset may attempt to record the loss in a period when earnings are lower than expected. When firm managers engage in this kind of behaviour, they are said to take a big bath, by shifting future impairment charges into the current accounting period, in their efforts to improve future earnings performance[50], and send an optimistic message to investors that the worst was over and the bad times are behind us, good times will follow (Zucca and Campbell, 1992).

The big bath hypothesis, therefore, predicts a positive[51]association between change in pre-write-offs earnings and asset impairments. On the other hand, it has been hypothesised that managers may attempt to recognise higher-than-necessary impairment losses in periods when earnings are higher than expected. This helps managers to smooth out the fluctuations/variability in publicly reported earnings by creating large amounts of inflated or cookie jar reserves to be employed later to bolster future earnings (Zucca and Campbell, 1992). Therefore, the income smoothing hypothesis predicts a positive association between change in pre-write-offs earnings and asset impairments.

[50] This prediction, however, is inconsistent with Rees et al. (1996), who argue it is equally possible that managers in firms with large negative pre-write-offs earnings are more inclined to report a higher amount of impairment losses, not because of their attempt to improve future earnings, but because "managers are appropriately responding to decreases in the asset's ability to generate income" (p. 168). From the researcher's point of view, empirical results should not be interpreted in isolation but instead, should be considered along with other economic factors (i.e. whether big bath reporting behaviour has a greater association with asset impairments, than do economic factors have). Therefore, finding a statistically significant relationship between change in pre-write-offs earnings and asset impairment may not suffice in its own as evidence of taking excessive big bath impairment charges. Interestingly, Rees et al. found evidence consistent with the big bath hypothesis, which suggests that managers may be tempted to act with opportunism and take big bath charges in order to make future earnings look better at the expense of current earnings. The evidence showed that "write-downs tend to accentuate poor operating performance" (p. 168).

[51] Increasingly negative numbers are actually decreasing values because they are moving further to the left of 0 on the number line.

Riedl (2004) find that assets write-offs reported under SFAS 121 (relative to those reported prior to the standard) were weakly associated with economic indicators (ΔGDP, ΔINDROA, ΔSALES, ΔE and ΔOCF), but strongly associated with proxies for reporting incentives (ΔMGT, BATH, and DEBT). Lapointe (2005) also find evidence consistent with the big bath hypothesis suggesting that firms experiencing a change in CEO or director seemed to impair greater amounts of their goodwill, so all the blame for the past problems is on the shoulders of their predecessors.

Similarly, Zang (2008) find that when a change in management takes place, firms tend to take a bath by deliberately writing off a large amount of their goodwill (i.e., overstate), in order to minimise the probability of any impairment loss recognition, and thereby report higher future earnings. Abughazaleh (2011) also found evidence supporting both the big bath and income smoothing hypotheses. The evidence showed that in the UK context, goodwill-impairment losses reported under IFRS were strongly associated with 'big bath' and 'earnings smoothing' reporting behaviour. In the EU context, Van de Poel et al. (2009) find that firms tend to impair their goodwill 'more often' when their reported earnings are unexpectedly low (i.e., take a big bath), or when their reported earnings are unexpectedly high (i.e., smooth earnings).

To distinguish between the effects of big bath and earnings smoothing reporting behaviour, two separate proxies are used to capture when earnings are unexpectedly low, and when earnings are unexpectedly high. Similar to (Francis et al., 1996; Riedl, 2004), Bath equals to the change in firm's pre-write off earnings from period t-1 to t, divided by total assets at the end of t-1 (if the value of this variable is negative) and 0 otherwise. Similarly, Smooth equals the change in firm's pre-write off earnings from period t-1 to t, divided by total assets at the

end of t-1 (if the value of this variable is positive) and 0 otherwise. It should be born in mind that Bath and Smooth are both designed to capture any incremental effects that the change in return on assets might have on the reporting of goodwill-impairment losses (Riedl, 2004).

For the reasons mentioned above, it can be expected that managers may deploy their direction opportunistically or cynically, overstating the amounts of goodwill-impairment losses reported, if they have the incentives to do so (i.e., when earnings are low or high relative to their peers). In other words, in the presence of income-decreasing incentives (i.e., big bath and/or earnings smoothing), firms may attempt to disclose large goodwill-impairment charges, which do not necessarily reflect the decline in the economic value of the firm's CGUs to which goodwill has been allocated.

From earnings smoothing and the big bath syndrome, the following two inferences can be drawn. First, after controlling for economic factors, finding a statistically significant positive correlation between the amounts of goodwill-impairment losses and BATH variable suggests that managers exercise their accounting discretion to take a big bath and record excessive discretionary goodwill-impairment charges that will not be mainly explained by the change in the firm's underlying economic performance. Second, finding any statistically significant positive correlation between goodwill-impairment amounts and the SMOOTH variable indicates that managers are using their accounting discretion for the purpose of smoothing the company's reported earnings and record large amounts of goodwill-impairment losses, which may not well correspond exactly to the change in the underlying economic characteristics of companies. Thus, based on the above discussion, the following hypothesis can be proposed:

H28: Firms with unexpectedly high (or low) earnings are likely to record higher amounts of goodwill-impairment losses than other firms.

4.4 H29: Value Relevance

Past studies have shown that goodwill-impairment losses are value relevant. As the literature review showed, these studies (e.g. Lapointe-Antunes et al. 2009; AbuGhazaleh et al., 2012) relate to particular countries. However, previous cross-country value relevance studies (e.g. Alford et al., 1993; Ali and Hwang, 2000; Hung, 2000) reveal that cross-country differences in the value-relevance of accounting numbers have mainly been explained in terms of cross-country differences in institutional factors such as the quality of financial reporting standards, type of legal system, and implicitly by different reporting demands arising from different institutional arrangements. The argument, therefore, is that institutional differences across countries have an impact on the information content of earnings, which, in turn, results in different degrees of value-relevance of accounting data in countries with different institutional frameworks (Veith and Werner, 2014).

One of the first cross-country studies was conducted by Alford et al. (1993) comparing the value relevance of accounting earnings in 17 countries (using the US as a benchmark) during the period 1983-1990. Their empirical results reveal that firms residing in Australia, France, Netherlands and the UK tend to publicly report accounting earnings that are more informative or more value-relevant than those reported by US counterparts, while firms residing in countries, such as Denmark, Germany, Italy, Singapore and Sweden, tend to report accounting earnings that are less informative or less value-relevant when compared to those reported by US counterparts. The authors explain cross-country differences in the value-relevance of accounting information by variations in accounting/disclosure practices, and corporate governance systems across countries.

Using the same set of countries as Alford et al. (1993) with a slightly different sample period from 1986 to 1995, Ali and Hwang (2000) provide further evidence for the fact that the value-relevance is higher in countries with market-oriented financial systems than in countries with bank-oriented financial systems, besides the value-relevance is higher for British-American model countries than for Continental model countries. Using 21 countries during the period 1991-1997, Hung (2000) investigated the impact of accrual accounting on the value relevance of accounting performance measures (earnings and ROE) for countries with different levels of shareholder protection, and found that accrual accounting has negatively affected the value relevance of accounting numbers, but only for countries with low anti-director rights scores.

Based on the above discussion, one would expect that firms in countries with better institutional quality will report goodwill-impairment losses that are relatively more informative or more value-relevant in comparison to their counterparts from countries with inferior institutional quality. This suggests that the association between goodwill-impairment amounts and share prices is expected to vary depending on the quality of a country's institutions within which firms operate. Hence, the following hypothesis is formulated:

H29: The value relevance of goodwill impairment losses varies across different clusters of countries.

4.5 Statistical Tests

This section examines all possible regression models and determines the model which will provide the best fit to the observed data.

4.5.1 Possible Regression Model(s)

The correct estimation method is not a straightforward choice because we have panel data (across firms and over a sample period 2007-2013) constrained to be non-negative, i.e., left censoring at zero, as the dependent variable, goodwill impairment losses, can be zero (firms report zero goodwill impairment losses) or any other continuous number, but cannot be negative (firms cannot report negative impairment losses).

4.5.1.1 OLS vs. Tobit

The Tobit or censored regression model was originally developed by James Tobi (1958), the Nobel laureate economist, where observations on the dependent variable Y_i are not observed, i.e., censored at a certain cut-off, so that values above (or below) the censoring point cannot be observed. While the dependent variable is censored, the corresponding values of the independent variables are still observable for all individuals (i). By contrast, in the truncated regression model, neither the dependent nor the explanatory variables are observed for individuals whose Y_i lies in the truncation region (Maddala, 1991; Baum, 2006; Brooks, 2008). The Tobit regression model is effectively a combination of discrete and continuous distributions (Greene, 2012), for example, the binary choice to impair or not to impair, and the continuous response of how much to impair, conditional on choosing to impair. In essence, the Tobit model is a hybrid of truncated regression analysis and Probit analysis (sometimes referred to as Tobin' Probit), it thus employs a maximum likelihood estimations (MLE) technique that combines the Probit and regression components of the log-likelihood function (Baum, 2006; Greene, 2012). Because of its ability to simultaneously estimate both

the censored and uncensored data, the Tobit model has gained considerable momentum. According to (Greene, 2012) "the Tobit model has become so routine and been incorporated in so many computer packages that despite formidable obstacles in years past, estimation is now essentially on the level of ordinary linear regression" (p. 850).

The Tobit model seems to be a natural choice for the majority of write-offs studies (Francis et al., 1996; Riedl, 2004; Lapointe-Antunes et al., 2008; Zang, 2008; Stokes and Webster, 2010; AbuGhazaleh et al., 2011; Chalmers et al., 2011), given that the values of the dependent variable Y_i are either zeros for non-impairing firms or any positive continuous number for those who chose to impair their goodwill. The logic behind their choice is that theoretically the dependent variable, which is the change in the economic value of goodwill, can take positive or negative values, i.e., firms report either decrease (write-offs) or increase (write-ups). The impairment standard (under IFRSs and/or US GAAP), however, does not allow for the recognition of any increase or upward revaluation of goodwill, i.e., goodwill can only be depreciated not appreciated. Hence, many firms, which experience an increase in the economic value of their goodwill, cannot record such increase, and they will instead report zero amount of goodwill-impairment loss (the observed values of the dependent variable are either non-negative or are clustered at zero.), suggesting that such increase is unobservable or latent due to censoring mechanisms. "These unobservable increases constitute that portion of the distribution of the (censored) dependent variable, which the Tobit specification attempts to fill in" (Riedl, 2004, p. 828).

Given many observations on the dependent variable stuck at zero, the use of ordinary least squares (OLS) is not appropriate and is more likely to yield both downward biased and inconsistent parameter estimates (i.e., a linear regression that ignores this feature of censored

data tends to be heavily skewed toward underestimating the actual slop of the data) (Dougherty, 2007; Gujarati, 2009; Greene, 2012). An obvious but flawed way to get around this would be just to remove all of the zero observations altogether. By artificially eliminating all units of observations clustered at lower limit zero, the resulting data set may not be representative of its population. According to Dougherty (2007), in an OLS regression, where the entire sample or the subsample for which $Y_i > 0$ (i.e., the truncated sample with non-zero observations) is used, the slope coefficients tend to be underestimated and below the Tobit estimate. The degree of bias is empirically related to the proportion of censored data, for example, the size of the bias tends to increase with the proportion of constrained observations. By the same token, Greene (2012) points out:

> "Researchers often compute ordinary least squares estimates despite their inconsistency. Almost without exception, it is found that the OLS estimates are smaller in absolute value than the MLEs. A striking empirical regularity is that the maximum likelihood estimates can often be approximated by dividing the OLS estimates by the proportion of nonlimit observations in the sample" (p. 851).

In theory, the Tobit regression model is only applicable in those cases wherein the latent variable can in principle take negative values and the observed values of zero are a consequence of censoring or non-observability. However, in actual practice, the Tobit model is normally employed when the values of the observed dependent variable are absolutely non-negative and are clustered at zeros, irrespective of whether any censoring has occurred (Sigelman and Zeng, 1999). As Greene (2012) states, "Many of the applications of the Tobit model in the received literature are constructed not to accommodate censoring of the underlying data, but, rather, to model the appearance of a large cluster of zeros" (p. 854).

Similarly, Maddala (1991) raised concerns about diversion or inappropriate use of the Tobit model in the literature:

> "It is tempting to use the Tobit model every time one has a bunch of zero (or other limit) observations on y. This is clearly inappropriate. In fact, there are many more examples of the inappropriate use of the Tobit model than of its correct use. In the Tobit model, y* can be less than c, but these observations with y* < c are not observed because of censoring. The limit observations arise because of non-observability".

In the context of goodwill-impairment, one could arguably accept that an impairment charge of goodwill can be, in principle, a negative number, which is unlikely to be observed or recognised (i.e., censored), and instead it is recorded as zero. However, this is only part of the story; the observed zero of goodwill-impairments is not necessarily a result of censoring (censoring is a problem with how the data were recorded, not how they were generated). For most companies, this figure will be exactly zero (i.e., companies choose not to impair their goodwill at all and, therefore, report no goodwill-impairment loss), but for those where it is not, the number will be less than zero and thus it would not be feasible. In this case, i.e., where the observed zeros are naturally occurring and relatively frequent in the data, the standard Tobit model is clearly inappropriate, and an alternative approach should be used. Therefore, it would make more sense if the underlying dependent variable is considered as a corner solution[52] (i.e., not a censored variable).

Unfortunately, this fundamental point has been routinely ignored. Riedl (2004) seriously questioned the conventional wisdom of applying the Tobit model in write-offs studies to the dataset for which it is inappropriate (as often occurs), although it looks like Tobit data, in that each consists of a cluster of zero values and a set of positive values. As Riedl (2004) explains, "Some or even all of these non-write-off observations may have true values of zero (reflecting no change in the value of assets), suggesting the distribution may not be censored"

[52] A corner solution is defined as "a nonnegative dependent variable that is roughly continuous over strictly positive values but takes on the value zero with some regularity" (Wooldridge, 2012, p. 846).

(p. 828). It is therefore suggested that "when the data come from a generating process other than censoring…, the standard Tobit model can produce a poor fit to the data and can seriously bias parameter estimates. As a side note… the direction and degree of bias of OLS estimates on standard Tobit data no longer holds" (p. 180).

In contrast, Wooldridge (2002) argued that OLS estimates will not be consistent when applied in both data censoring applications and corner solution applications, suggesting that "regressing Y_i on xi using all of the data will not consistently estimate β… so it would be a fluke if a linear regression consistently estimated β" (p. 525). Moreover, Wooldridge (2012), though, became more and more convinced that the standard Tobit specification is "explicitly design to model corner solution dependent variables" (p. 584). In summary, the Tobit is considered more appropriate in this study, because 85% of the study's data are censored at zero.

4.5.1.2 One-Tiered vs. Two-Tiered Model

One main limitation of the Tobit model is that the decisions of (i) whether to impair goodwill or not; and (ii) how much goodwill is impaired are both determined by the same set of independent variables (i.e., the Tobit model will necessarily be mis-specified and the estimated relationship is statistically unreliable and invalid). To overcome this limitation, one might need to have two equations: one for the impairment decision (i.e., a firm's decision to impair its goodwill or not) and one for the magnitude of goodwill-impairments, providing that the answer to the first equation is yes. This allows researchers to use different parameters (with the same or different regressors) to separately determine the probability of the discrete dependent variable being observed (i.e., whether to impair or not), as well as the magnitude of the continuous dependent variable (how much to impair). This is often called the hurdle model or Heckman two-tiered model, which has emerged as the de facto alternative to the

standard Tobit model, particularly when the observed values of the dependent variable are clustered at zero due to selection bias rather than mechanisms of censorship (Maddala, 1991; Sigelman and Zeng, 1999; Wooldridge, 2002; Wang, 2008; Greene, 2012).

Very few researchers (e.g. Beatty and Weber, 2006; Ahmed and Guler, 2007) have chosen to use mainly the two-tiered model (i.e., Probit and truncated regressions) in their analysis of the discrete and continuous choices related to the impairment decision (i.e., whether to impair or not) and the magnitude of goodwill-impairment losses (i.e., how much to impair).

The current study, however, will use a one-tiered model, instead of a two-tiered model, for at least two reasons. Firstly, it seems unlikely that the two decisions (i.e., whether to impair or not, and if yes, how much to impair) are uncorrelated (Greene, 2012). Secondly and relatedly, the two decisions are not necessarily sequential, but are rather made simultaneously. This is particularly true in the case of IAS 36, which required the use of a one-step approach (or single-step approach), as opposed to the two-step approach[53] of SFAS 142, to both determine if an impairment loss exists and measure the amount of the impairment loss. Hence, a joint decision model where the decisions of whether a firm to impair its goodwill or not, as well as how much to impair are jointly determined by the standard Tobit model (Maddala, 1991).

Riedl (2004) was in favour of this view and wrote:

> "I could alternatively model this in a two-stage design, with the first stage capturing the decision to report a write-off, and the second capturing the amount. I choose not to do so, as I assume the two

[53] It has been suggested that the alternative two-tiered model is more appropriate in the U.S context, with the first model capturing the binary (choice) decision about whether a firms to impair its goodwill or not using a probit or a logit regression, and the second model capturing the intensity of goodwill-impairments using a truncated regression analysis (Abughazaleh, 2009).

choices are simultaneous (and thus captured by the Tobit design) and not sequential (as implied by a two-stage design)" (p. 828).

In conclusion one-tiered model is considered more appropriate than two-tiered, and it has been adopted by this study.

4.5.1.3 Pooled vs. Panel

There are three kinds of data that are generally available for empirical analysis: (1) cross-sectional, (2) time series, and (3) panel or longitudinal data (Dougherty, 2007; Gujarati, 2009). A panel of data combining the features of cross-sectional data and time series data; consist of repeated observations on the same elements (individuals, firms, countries, etc.) through time. Unlike pooled data, in a panel data set, the matching cross-sectional units are studied over a given time period (Wooldridge, 2012). One should not be confused with an unbalanced panel, in which each individual may be observed different numbers of times (i.e., the number of observations differs among panel members). However, if each individual has the same number of times, then such a dataset is called a balanced panel (Greene, 2012). This study uses seven-year (2007-2013) unbalanced[54] panel data for 2,466 firms entering and exiting the data set. I only include firms with non-zero positive goodwill amounts. However, firms that impair the whole amount of their goodwill in a given year will be

[54] If I constrain analysis to a balanced panel, by eliminating all individuals with missing observations, the resulting sample may suffer from a form of a selection bias known as survivorship bias (Baum, 2006). For example, the S&P COMPUSTAT database of U.S. firms contains 20 years of annual financial statement data. The set of firms is thus unrepresentative in omitting start-ups (even those of age 19) and firms that were taken over during that time. If the sample is unrepresentative, then the inferences drawn from it are not on solid footing and are more likely to be erroneous. In the real world, most panel data are unbalanced, i.e. different individuals may have different patterns of observed data. Individuals are divided into groups according to their data patterns.

excluded in that year, with the possibility to be included in the next year, following mergers or acquisitions.

A panel dataset offers many advantages over cross-sectional data, or even pooled cross-sectional data.

First, it allows for control of unobserved individual- and/or time-specific heterogeneity. It has therefore been suggested that panel data enables us to "identify and measure effects that are simply not detectable in pure cross-section or pure time-series data" (Baltagi, 2008, p. 6). When the error or disturbance term, which represents the unexplained variation in y, is correlated with any of the independent variables, the estimates of the regression coefficients of y on x will be subject to omitted variable bias in the least square estimator of the misspecified equation (Dougherty, 2007; Baltagi, 2008; Gujarati, 2003; Greene, 2012). For example, firms' accounting practice will almost certainly vary across countries (i.e., one is interested in testing whether the parameters of the equation predicting the pattern of accounting practices vary from one country to another). Hence, not accounting for country heterogeneity (or individuality of the country in which firms operate) may cause serious misspecification and lead to bias in the resulting estimates or misleading inferences.

Second, pooling time series of cross-sections adds "more informative data, more variability, less collinearity among the variables, more degrees of freedom and more efficiency" (Baltagi, 2008, p. 5). With a lot of variability in the data, one can produce more reliable parameter estimates.

Third, the analysis of panel data allows the tracking not only the patterns of change, but also the direction of change (i.e., dynamics of change) at both individual and aggregate levels (e.g. industry, country, region, etc.) (De Vaus, 2001; Baltagi, 2008; Gujarati, 2003).

Fourth, panel data helps to eliminate, or at least reduce, aggregation-based bias by using panel data gathered at micro-level, which is believed to be more accurately measured than macro-level data (Baltagi, 2008; Gujarati, 2003).

Fifth, by tracking the temporal sequence/order in which events occur, panel data can be more useful than purely cross-sectional data[55]in drawing causal inferences in situations where inferring causality would be very difficult if only a single cross section were available. This is a necessary but not sufficient condition[56]for establishing a cause-and-effect relationship, in which the cause is succeeded or followed by its effect (i.e., the cause must precede its effect in time) (De Vaus, 2001; Wooldridge, 2012).

Despite the many advantages thereof, panel data is unfortunately marred by a number of limitations and problems. Panel data cannot be expected to be panacea for all types of problems that cross-sectional or time series data cannot handle alone (Baltagi, 2008); rather

[55] One also has to be careful in using time series data to establish causality, because some series contain a time trend. Ignoring the fact that two series are trending in the same, or opposite directions can lead to a false or misleading conclusion (i.e. spurious association) that one variable causes a change in another variable. In many cases, however, the two variables appear to co-vary because they co-occurred over space and time for reasons related to other unobserved (i.e. not included in the analysis) factors that actually explain both the cause and its effect (De Vaus, 2001; Wooldridge, 2012).

[56] Hair et al. (2010) Suggest that causality can only be supported when certain conditions are met. These conditions include the following: (i) Systematic covariance (correlation) between the cause and its effect, (ii) The cause must occur before its effect, (iii) Non-spurious association must exist between the cause and its effect, and (4) Theoretical support exists for the relationship between the cause and its effect.

it has been to suggest that panel data has the "potential to exhibit all the problems associated with cross-sectional and time series data in addition to problems that are unique to the panel data" (Howard, 2009, p. 97).

First, in panel studies, wherein the same individual is observed or measured at different points in time, the observations of one individual over time will not independent of one another. It is suggested that individuals who take on extreme values in their initial observation will tend to take on less extreme values in their successive or subsequent observations. In general, "high scores will tend to get lower and low scores will tend to get higher"[57] (De Vaus, 2001, p. 135). This phenomenon is referred to as the "regression towards the mean". The word regression was first used by Sir Francis Galton in his well-known 1886 article, "Regression towards Mediocrity in Hereditary Stature", in which Galton examined the relationship between parents' height and their children's height, and showed that tall parents, who are above average in height will tend to have children who are shorter than their parents, whereas short parents, who are below average in height will tend to have children who are taller than their parents (Galton, 1886).

Second, another major problem in panel studies is the loss of cases over time (attrition or dropouts). The longer the time spans of a panel study, the greater the chances of attrition. Hence, there is always a possibility that the final sample will become composed increasingly of different individuals from those who were initially observed when the panel was first

[57] In the context of goodwill-impairments, companies that decided to impair their goodwill aggressively/excessively after the first year(s) of their acquisition, will tend to impair less in subsequent years, since goodwill amounts that are subject to impairment-testing will be smaller. The opposite is also true, companies with large amounts of goodwill in their asset portfolio, and chose not to impair or impair less of their goodwill, are likely to incur more impairment losses in successive year(s), since goodwill amounts that are subject to impairment-testing will be greater (Zang, 2008).

recruited (De Vaus, 2001; Baltagi, 2008). However, the sample bias, which is caused by attrition, can only be problematic, if attrition does not occur at random, i.e., when certain types of individuals are more likely to drop out from the panel than are others (De Vaus, 2001). Furthermore, the attrition bias only matters at the descriptive level, but not at the explanatory level.

As De Vaus (2001) explains,

"If, for example, a panel study is biased because of disproportionate dropouts of younger people, this age bias only matters if age is linked to the variables that are being examined. If X affects Y, regardless of age, then the age bias due to attrition does not matter" (p. 136).

i) Assessing the appropriateness of pooled OLS and panel estimations

In general, there are three main models for analysing panel or longitudinal data sets: the pooled regression model, the fixed-effects (FE) model, and the random-effects (RE) model. Econometrically, panel data regressions are different from time-series/cross-sectional regressions in that it has a double subscript on its variables.

$$Y_{it} = \alpha + \beta X_{it} + \varepsilon_{it}\,, \qquad (4.1)$$

where $\mathbf{Y_{it}}$ is the dependent variable, α is the intercept term, $\mathbf{X_{it}}$ are the observed explanatory variables, $\boldsymbol{\varepsilon_{it}}$is the disturbance term, the index $\mathbf{it}$ refers to the unit of observation and the time period respectively.

The simplest way to deal with cross-section and time series data is to estimate a pooled regression model (the most restricted model), in which all observations are pooled together and estimated by a single equation using OLS, assuming that (1) the regression coefficients are constant both cross-sectionally and over time; and (2) unobserved sources of variations across individuals is absorbed by the error term. In other words, it often overlooks

individual- and/or time-specific effects that exist among cross-sectional and time series units by treating all the observations for the all of the time periods as a single sample (Brooks, 2008; Gujarati, 2003). The pooled OLS, however, is only appropriate if the model is correctly specified (the regressors are uncorrelated with the error term) in the sense that the observed variables control for all the relevant characteristics of individuals, i.e., there will be no unobserved individual characteristics (Dougherty, 2007). If this is not the case, i.e., if the unobserved effect is correlated with any of the regressors, the use of pooled OLS is likely to yield biased and inconsistent estimators, resulting in an omitted variable bias.

To test for the poolability hypothesis of the data (i.e., the absence of individual-specific effects), the study's data was tested using the Lagrange multiplier (LM) test, developed by Breusch and Pagan (1980), which allows us to test for the validity of the pooled OLS model against the random-effects model, under the null hypothesis that the cross-sectional variance components are zero. If the null is not rejected, the pooled OLS is unbiased and consistent; if the null is rejected, the random-effects model should be preferred to the pooled OLS. The Lagrange multiplier (LM) test rejected the null hypothesis (chi2 = 271.40 with a p-value of 0.0000) that there was no significant difference across firms (i.e., no panel effects), which confirms the presence of individual effect in the data. Therefore, for the purpose of this study pooled data is not appropriate.

ii) Assessing the appropriateness of fixed-effects and random-effects estimations

The result of Breusch and Pagan's test indicates that panel estimation techniques are more appropriate than pooled OLS method. In order to account for individual-specific effects (here firm-specific effects) or unobserved heterogeneity, two methods of panel data estimations are used. These are named as fixed-effects and random-effects estimations. In principle, the random-effects models provide more efficient coefficient estimates than do the fixed-effects

models, if certain assumptions/preconditions are met (Dougherty, 2007). This is particularly the case since random-effects specifications save more degrees of freedom and accommodate time-invariant regressors (Greene, 2012). However, if one of the assumptions for using random-effects is violated, fixed-effects specifications should be used instead to avoid the problem of omitted heterogeneity, or the bias resulting from not being able to include certain important explanatory variables in the regression model.

One assumption is that the units of observation in the panel data can be described as drawn randomly from a given population, i.e., a random sample (Dougherty, 2007). The other assumption is that the population distribution of the unobserved heterogeneity is conditionally independent of the observed covariates X_i (Greene, 2012; Gujarati, 2003).

The fixed-effects estimators are most likely to be consistent when unobserved individual-specific characteristics are time-invariant (i.e., fixed) and correlated with the regressors, whereas the random-effects specification will produce efficient estimates under the null hypothesis that those unobserved individual-specific factors are orthogonal to the regressors included in the model (Morgan, 2013). Thus, there is a trade-off between consistency and efficiency when making a decision between the two models. Thus, an additional test is required to find out whether or not the orthogonality assumption actually holds. Therefore, using the study's data a comparison was undertaken between the parameter estimates obtained under the fixed-effects and random-effects models using Housman's (1978) specification test. The Hausman test statistic of 214.00 with a p-value of 0.000 provides strong evidence that the null hypothesis of orthogonally is rejected, implying that: (i) fixed-effects and random-effects estimators are statistically significantly (p-value is essentially

zero) different from each other, (ii) random-effects estimates are not consistent, and (iii) fixed-effects specification is clearly more appropriate.

Another important assumption behind the use of random-effect models instead of fixed-effects models is that a random-effects approach is more appropriate when making inferences about the population from which the sample was randomly drawn, whereas fixed-effect models are more appropriate when the inferences apply only to the cross-sectional units in the sample. In other words, random-effects analyses allow the inference to be generalised to the population from which the subjects were selected (Maddala, 1987; Hsiao, 2003). Given the significant result of the Hausman specification test and the fact that the selection of countries and firms was made according to selected criteria relevant to the focus of the analysis, random-effects estimates are rejected in favour of fixed-effects estimates.

4.5.2 The Choice of the Study's Regression Model

The above discussion shows that: i) a fixed-effects model is preferred to random-effects; and ii) the Tobit model is more appropriate than OLS specification. However, some argue that Tobit panel estimation (which is appropriate for this study) with fixed-effects may be considered inappropriate. In short wide panels (i.e., panels with a large number N of cross-sectional units observed over short time periods T), a fixed-effects model with limited dependent variables will give rise to biased and inconsistent estimates due to the problem of incidental parameters (an increase of the number N of cross-section units provides no additional information about μ) which the number of parameters goes to infinity while the number of time periods is fixed (Wooldridge, 2002; Hsiao, 2003).

However, Greene (2004) has expressed an entirely different view on the Tobit estimation. According to him, "the incidental parameters problem is more varied and complicated than

the received literature would suggest" (p. 127). Green (2004) presented statistical evidence indicating that in a model with continuous variation in the dependent variable, the problem of incidental parameters only affects the variance parameters. In particular, the maximum likelihood estimates of the variance parameters in the presence of fixed-effects (MLE/FE) are biased downward, whereas the MLE/FE of slope coefficients in the Tobit model are not systematically biased either upward or downward. He concludes, "The incidental parameters problem persists, though not where one might have expected it" (p.127). Moreover, the downward bias in the standard deviation of MLE/FE is not innocuous, because this bias will diminish fairly rapidly with increasing T. With T=5, the estimators of the disturbance variance appear to be only slightly affected by the incidental parameters problem. With T > 5, the estimators appear to be essentially unbiased.

This argument provides acceptable resolution to the dilemma of choosing between OLS and Tobit estimates. Because the dataset contains a large number of left-censored values (approximately 85% censoring) and T =7, the Tobit model with fixed-effects will be used to meet the stated purpose of the study.

4.5.3 Empirical Models

On the basis of the above discussion the study develops a fixed-effects Tobit model, which allows for censoring of impairment losses at zero, and controls for time-invariant industry and country-specific characteristics. I adopt a stepwise regression where I first regress goodwill-impairment amounts on the economic and managerial reporting incentives, after controlling for all possible time-specific, country-specific, and industry-specific factors that may affect the reporting of goodwill-impairments. The following model is developed:

Model (1)

$$IMP_{it} = \alpha_0 + \beta_1 GW_{it} + \beta_2 M/B_{it} + \beta_3 \Delta MrktCap_{it} + \beta_4 \Delta OCF_{it} + \beta_5 \Delta SALES_{it} + \beta_6 \Delta ROA_{it} + \beta_7 Earn\_Volt_i + \beta_8 Price\_Volt_i + \beta_9 \Delta IndMD\_ROA_{it} + B_{10} \Delta GDP_{it} + \beta_{11} OWN_i + \beta_{12} \Delta Debt\_Ratio_{it} + \beta_{13} BATH_{it} + \beta_{14} SMOOTH_{it} + \beta_{15} SIZE_{it} + \beta_{16} BIG4_i + \beta_{17} Crisis_t + \sum_{18}^{25} INDUSTRY + \sum_{26}^{41} COUNTRY + \varepsilon_{it} \quad (4.2)$$

I then include all cultural and institutional variables (except book-tax conformity), because this variable is not available for Poland and I wanted to include all the countries.

Model (2a)

$$IMP_{it} = \alpha_0 + \beta_1 GW_{it} + \beta_2 M/B_{it} + \beta_3 \Delta MrktCap_{it} + \beta_4 \Delta OCF_{it} + \beta_5 \Delta SALES_{it} + \beta_6 \Delta ROA_{it} + \beta_7 Earn\_Volt_i + \beta_8 Price\_Volt_i + \beta_9 \Delta IndMD\_ROA_{it} + B_{10} \Delta GDP_{it} \beta_{11} OWN_i + \beta_{12} \Delta Debt\_Ratio_{it} + \beta_{13} BATH_{it} + \beta_{14} SMOOTH_{it} + \beta_{15} SIZE_{it} + \beta_{16} BIG4_i + \beta_{17} Crisis_t + \sum_{18}^{25} INDUSTRY + \beta_{26} LG\_Sys_i + \beta_{27} Pwr\_Dst_i + \beta_{28} Indvdsm_i + \beta_{29} Mscnty_i + \beta_{30} Uncrtnty\_Avd_i + \beta_{31} LngTrm\_Ornt_i + \beta_{32} Invstr\_Prtct_i + \beta_{33} Qlty\_Lglty_i + \beta_{34} EqtyMrkt\_Dvlp_i + \varepsilon_{it} \quad (4.3)$$

I then include book-tax conformity, along with all of the variables in the Model (2a), (therefore Polish firms were excluded), and the following model is developed:

Model (2b)

$$IMP_{it} = \alpha_0 + \beta_1 GW_{it} + \beta_2 M/B_{it} + \beta_3 \Delta MrktCap_{it} + \beta_4 \Delta OCF_{it} + \beta_5 \Delta SALES_{it} + \beta_6 \Delta ROA_{it} + \beta_7 Earn\_Volt_i + \beta_8 Price\_Volt_i + \beta_9 \Delta IndMD\_ROA_{it} + B_{10} \Delta GDP_{it} \beta_{11} OWN_i + \beta_{12} \Delta Debt\_Ratio_{it} + \beta_{13} BATH_{it} + \beta_{14} SMOOTH_{it} + \beta_{15} SIZE_{it} + \beta_{16} BIG4_i + \beta_{17} Crisis_t + \sum_{18}^{25} INDUSTRY + \beta_{26} LG\_Sys_i + \beta_{27} Pwr\_Dst_i + \beta_{28} Indvdsm_i + \beta_{29} Mscnty_i + \beta_{30} Uncrtnty\_Avd_i + \beta_{31} LngTrm\_Ornt_i + \beta_{32} Invstr\_Prtct_i + \beta_{33} Qlty\_Lglty_i + \beta_{34} EqtyMrkt\_Dvlp_i + \beta_{35} Book\_Tax_i + \varepsilon_{it} \quad (4.4)$$

Furthermore, I employ interaction terms between firm-and-country-specific variables to investigate the moderating impact of country-specific variables on the relationship between firm-specific characteristics and goodwill-impairment losses.

4.5.4 Measurement of Variables

Table 4.1 lists all the variables of interest along with their measures, predicted sign and source of data. These are categorised into economic, managerial incentives, cultural, institutional, and control variables.

Table 4.1 Dependent and Independent Variables: Definition, Predictions, and Data Sources

Variable	Group of Variable	Definition	Sign	Source of Data
IMP_{it}	*Dependent*	*Firms' reported goodwill-impairment losses divided by total assets at the end of t-1*		*Worldscope*
GW_{it}	*Economic*	*Firms' opening balance of goodwill divided by total assets at the end of t-1*	+	*Worldscope*
M/B_{it}	*Economic*	*Firms' market value of equity divided by book value of equity (adjusted for goodwill write-offs) at the end of t*	-	*Worldscope*
$\Delta MrktCap_{it}$	*Economic*	*Firms' percent change in market value of equity from t to t-1*	-	*Worldscope*
ΔOCF_{it}	*Economic*	*Change in operating cash flow from t to t-1 divided by total assets at the end of t-1*	-	*Thomson Financial*
$\Delta SALES_{it}$	*Economic*	*Change in sales from t to t-1divided by total assets at the end of t-1*	-	*Worldscope*
ΔROA_{it}	*Economic*	*Change in return on assets from t to t-1*	-	*Worldscope*
$Earn\_Volt_i$	*Economic*	*Standard deviation of Earnings Per share*	+	*Worldscope*
$Price\_Volt_i$	*Economic*	*A measure of a stock's average annual price movement to a high and low from a mean price for each year*	+	*Thomson Financial*

$\Delta IndMD\_ROA_{it}$	*Economic*	*Percent change in industry median return on assets from t to t-1*	**-**	*Worldscope*
ΔGDP_{it}	*Economic*	*Percent change in Gross Domestic Product from t to t-1.*	**-**	*Worldscope*
$\Delta Debt\_Ratio_{it}$	*Managerial Incentive*[58]	*Change in the firm's debt-to-assets ratio from t to t-1*	**?**	*Worldscope*
OWN_i	*Managerial Incentive*	*The average of the percentage of shares held by insiders (Number of Closely Held Shares / Common Shares Outstanding*100).*	**?**	*Worldscope*
$BATH_{it}$	*Managerial Incentive*	*This variable is equal to the change in firm's pre-write off earnings from period t to t-1, divided by total assets at the end of t-1, when this change is below the median of non-zero negative values, and 0 otherwise*	**+**	*Worldscope*
$SMOOTH_{it}$	*Managerial Incentive*	*The variable is equal the change in firm i's pre-write-off earnings from t to t-1 divided by total assets at the end of t-1, when this change is above the median of non-zero positive values; and 0 otherwise*	**+**	*Worldscope*
Pwr_Dst_i	*Cultural*	*Hofstede's power distance scores*	**-**	*The Hofstede centre (geert-hofstede.com)*
$Indvdsm_i$	*Cultural*	*Hofstede's individualism scores*	**+**	*The Hofstede centre (geert-hofstede.com)*

[58] Lapointe-Antunes et al. (2008) use debt ratio and ownership concentration as control variables capturing firm's financial structure.

$Mscnty_i$	*Cultural*	*Hofstede's masculinity scores*	-	*The Hofstede centre (geert-hofstede.com)*
$Uncrtnty\_Avd_i$	*Cultural*	*Hofstede's uncertainty avoidance scores*	-	*The Hofstede centre (geert-hofstede.com)*
$LngTrm\_Ornt$	*Cultural*	*Hofstede's long-term orientation scores*	+	*The Hofstede centre (geert-hofstede.com)*
LG_Sys_i	*Institutional*	*A dummy variable that takes the value 1 if the firm i's country's legal structure is based on the English common-law and 0 otherwise*	?	*Djankov et al (2008)*
$Invstr\_Prtct_i$	*Institutional*	*The principal component of: (1) Revised anti-director rights index; (2) Anti-self-dealing index; (3) Strength of investor protection index; and (4) Business extent of disclosure index*	?	*Appendix (3)*
$Qlty\_Lglty_i$	*Institutional*	*The principal component of: (1) Regulatory quality index; (2) Corporate ethics; (3) Strength of auditing and reporting standards; (4) Efficacy of corporate boards; (5) protection of minority shareholders; and (6) Regulation of securities Exchanges*	?	*Appendix (3)*
$EqtyMrkt\_Dvlp_i$	*Institutional*	*The principal component of: (1) the ratio of the number of domestic firms listed in a given country to its population; (2) Market capitalization of listed companies (% of GDP); and (3) Stock market total value traded to GDP*	?	*Appendix (3)*
$Book\_Tax_i$	*Institutional*	*A measure of book-tax conformity, which represents the amount of variation in current tax expense that cannot be explained by the variation in pre-tax earnings, income from foreign operations, and dividends*	+	*Blaylock et al. (2012)*

$SIZE_{it}$	*Control*	*The natural logarithm of total assets at the end of t-1*	**?**	*Worldscope*
$BIG4_i$	*Control*	*A dummy variable that takes the value 1 if firm's auditor is one of the BIG4 Auditors (i.e., Deloitte, PwC; EY; and KPMG) and 0 otherwise*	**?**	*Worldscope*
$Crisis_t$	*Control*	*A time dummy variable that takes the value of 1 in the years during the crisis period (2007-2009) and the value of 0 in the years after the crisis period (2010-2013)*	**?**	
$INDUSTRY$	*Control*	*Firms' major industry affiliation*	**?**	*Worldscope*
$COUNTRY$	*Control*	*Firms' country of origin*	**?**	*Worldscope*

Note: This table lists all the variables of interest along with their measures, predicted sign and source of data. These are categorised into economic, managerial incentives, cultural, institutional, and control variables.

4.5.4.1 The Dependent Variable

This is defined as the firm's amount of goodwill-impairment losses over its prior year's total assets. This is considered more appropriate for impairment losses reported under IFRS regime which uses a one-step approach[59], and not a two-step approach which US GAAP requires[60]. In a two-step approach, the impairment decisions (i.e. whether to impair or not, as well as how much to impair) are taken sequentially, whereas in a one-step approach, the impairment decisions are taken simultaneously or jointly. Therefore, it can be argued that under the latter scenario (which applies to this study's sample), it is more appropriate to consider the goodwill-impairment amounts rather than only the goodwill-impairment decision, which Glaum et al (2015) used.

Due to the difficulty of separating goodwill-impairment losses into discretionary and non-discretionary elements, almost all goodwill-impairment studies (Francis et al., 1996; Riedl, 2004; Lapointe-Antunes et al., 2008; Zang, 2008; AbuGhazaleh et al., 2011) employ the recorded impairment of the firm-wide goodwill divided by prior year's total assets.

4.5.4.2 Economic Factors (H16-H25)

The first economic variable (GW_{it}), the relative size of goodwill, is meant to proxy for the characteristics of goodwill (the importance of goodwill). Companies with large amounts of goodwill in their asset portfolio are likely to incur more impairment losses, since the relative amount of goodwill exposed to the impairment-testing will be greater (Lapointe-Antunes et al., 2008; Zang, 2008; AbuGhazaleh et al., 2011).

[59] A one-step approach compares the carrying amount of a CGU (including goodwill) to its recoverable amount. When the carrying amount of a CGU is greater than its recoverable amount, an impairment loss is recognised.

[60] An impairment loss is recognised when the carrying amount of the reporting unit (including goodwill) is greater than its fair value (Step 1) and the carrying amount of goodwill is greater than the implied fair value of the reporting unit goodwill (Step 2).

The next five variables (M/B_{it} , $\Delta MrktCap_{it}$, $\Delta SALES_{it}$, ΔOCF_{it} , ΔROA_{it}), controls for firm-level performance. The poorer the firm's performance, the more likely that firm is to report larger goodwill-impairment amounts (Francis et al., 1996, Lapointe-Antunes et al., 2008).

Two more variables ($Earn\_Volt_i$,$Price\_Volt_i$) were included in the analysis. In addition, this study included other two variables (ΔIND_ROA_{it} ,ΔGDP_{it}), to capture changes in the underlying economics of industry-specific, and macroeconomic effects respectively. As illustrated in the development of the related hypotheses, I predict a negative association between goodwill-impairments and these two variables. Companies in badly-performing industries may record more impairments, while those in well-performing industries may record less write-offs (Francis et al., 1996, Riedl, 2004). Negative changes in GDP are, however, indicative of the overall economic decline, implying that firm's assets may have suffered concurrent reductions in their values (Riedl, 2004).

4.5.4.3 Managerial Reporting Incentives (H26-H28)

A further five variables (, $\Delta Debt\_Ratio_{it}$, OWN_{it} , $BATH_{it}$,$SMOOTH_{it}$), were included in the regression analysis to capture reporting incentives that may exist for managers to manipulate the reporting of goodwill-impairments. Managers may or may not report the economic (actual) impairments of goodwill, if they the incentives to do so. They may face reporting incentives to decrease or increase the amounts of goodwill-impairments, which in turn affects the inferred precision of recorded impairment losses.

The first two variables ($\Delta Debt\_Ratio_{it}$, OWN_{it}) attempt to control for the financial structure (the proportion of debt in the capital structure relative to total assets) and ownership structure (the percentage of closely-held shares) respectively. Finding a relationship (either

positive or negative) between the amounts of goodwill-impairment losses firms report and their financial and/or ownership structure suggests that those reported impairment losses are biased because they reflect something that is not a reduction of the current value of goodwill (Kvaal, 2005). The other two variables ($BATH_{it}$,$SMOOTH_{it}$) control the change in pre-write-offs earnings. When earnings are unexpectedly low or high, managers will have incentives to increase the amounts of goodwill-impairment losses (i.e., take a bath or smooth earnings).

4.5.4.4 Cultural/Institutional Variables (H1-H15)

All Hofstede's five cultural dimensions were included in the analysis namely, Power Distance (Pwr_Dst), Individualism ($Indvdsm_i$), Masculinity ($Mscnty_i$), Uncertainty Avoidance ($Uncrtnty\_Avd_i$), and Long-Term Orientation ($LngTrm\_Ornt_i$).

Another five institutional variables were also included in the analysis namely, Legal System, (LG_Sys_i), Book-Tax Conformity ($Book\_Tax_i$), Investor Protection ($Invstr\_Prtct_i$), Quality of Legality (Qlty_Lglty), and Development of Equity Markets (EqtyMrkt_Dvlp). These variables are intended to capture the efficiency of country-level institutions in reducing the incentives for opportunism and self-serving behaviour of managers. The latter three institutional variables, Investor Protection ($Invstr\_Prtct_i$), Quality of Legality (Qlty_Lglty), and Development of Equity Markets (EqtyMrkt_Dvlp), were estimated by the author and constitute one of the study's original contributions to the literature[61]. Appendix (3) shows the country scores for each of these variables. For example, a Greek firm will have a value of 3.6 for investor protection, while a French firm will have a value of 7.27. In order

[61] Therefore, the study extends Glaum et al. (2015) who have examined the impact of the strength of national auditing and accounting enforcement, by only considering the proxy developed by Brown et al. (2014), without taking into consideration the impact of other national institutions.

to obtain these measures, a lengthy procedure was followed involving exploratory and confirmatory factor analysis. This procedure is explained in the Appendix (1).

4.5.4.5 Control variables

Finally, five control variables are included in the models, namely: firm size, auditor type, crisis period, industry, and country.

Firm size seems able to accommodate various seemingly conflicting aspects of goodwill-impairment losses. It can be a proxy for political cost as larger firms are subject to more scrutiny by the regulations and the public. It can also be a proxy for discretionary impairment charges. Large firms –in general- engage more frequently in mergers and acquisitions activities (Zang, 2008). This, in turn, may mean that they will be more likely to "impair goodwill associated with prior unprofitable acquisitions as the decrease in the carrying value of goodwill will be offset by the additions to goodwill" (AbuGhazaleh et al., 2011, pp. 183). However, from the informational efficiency point of view, firm size can proxy for an economic impairment. Large firms are generally followed by many analyst and thereby receive more public scrutiny. This results in "more efficient processing of accounting information for these firms and fewer incentives for their managers to manipulate [goodwill-impairment losses]" (Zang, 2008, p. 49).

Several researchers also argue that auditors can play a private role by assisting public authorities in ensuring initial compliance with accounting standards. However, not all auditors will necessarily play a greater role in monitoring compliance, DeAngelo (1981) found that larger, globally-operating audit firms have particularly strong reputation-based incentives to provide higher audit quality, when compared to their smaller, regionally-oriented counterparts. Francis and Wang (2008) suggest that BIG4 auditors have as strong

an incentive to enforce (or impose) a higher level of earnings quality so as to preserve the reputation of the firm, and thereby avoid costly litigation. In contrast, non-BIG4 auditors, that oversee company's accounts, are motivated by the desire to maximise their own returns. They would, therefore, be likely to keep their mouth shut and turn a blind eye to earnings misreporting in order to avoid dismissal by their clients. Based on the above discussion, one can expect that firms, which are audited by one of the BIG4 auditors, will record impairment losses that better reflect the economic decline in goodwill value.

The study also controls for the effects of the global financial crisis by including an indicator variable that takes the value of 1 in the years during the crisis period (2007-2009) and the value of 0 in the years after the crisis period (2010-2013). This is consistent with the view of several researchers (e.g. Anand et al., 2013; Dimpfl and Peter, 2014; Aizenman et al., 2015; Thakor, 2015), who generally agreed with the National Bureau of Economic Research (NBER) (2010) that the financial crisis technically began in the last quarter of 2007, and continued through the end of 2009. It differs, however, from Glaum et al. (2015), who defined the pre-crisis period from 2005 to 2007, the crisis-period from 2008 to 2009, and the post-crisis period from 2010-2011.

Industry and country dummies are also included to control of industry-specific, and country-specific characteristics.

4.5.5 Cluster Analysis

An additional test was carried out using K-means cluster analysis, in order to compare the relative magnitude of coefficient estimates (resulting from regressing the impairment losses on the economic/reporting incentives) across institutional and cultural clusters of countries. Using equation (1) with no country dummies, I first test whether the within-cluster

regressions produce slope coefficients that are negative and statistically different from zero. Then, I test whether these estimated coefficients differ considerably across country clusters, both in terms of their magnitude and their statistical significance. Since the predicted signs for all economic impairment proxies are negative within each cluster, a cluster with regression coefficients that are negative, significant and larger in absolute value would suggest that goodwill-impairment amounts have greater correlations with economic factors, in comparison to the other cluster.

4.5.6 The Value Relevance- Model (3)

Following Lapointe-Antunes et al. (2009) and AbuGhazaleh et al. (2012), the Ohlson's valuation model -introduced in Chapter 3- was altered by separating goodwill and its impairment losses from income and book value of equity. Goodwill is an operating[62]asset that provides returns for investors. The act of writing off goodwill signals to investors that management has lost confidence that the assets, which are being written-off, will provide higher returns in the future. Impairments of goodwill reduce a company's stock market value. That is, when management records goodwill impairment, it reveals important information about its assessment of the value of goodwill assets and expected return on those assets. Impairments have a negative relationship with corporate performance, which suggests that, once goodwill is written off, it does not continue to produce operating income.

Accordingly, firms reporting impairment losses negatively associated with the market value of their own equity, really have a high degree of value-relevance goodwill-impairments. According to Lapointe-Antunes et al. (2009), the negative association between firms'

[62] Goodwill makes the whole company worth more than its individual parts. It allows a company to earn above average profits with its identifiable net assets.

goodwill-impairment losses and their market equity values is consistent with "investors perceiving losses as being sufficiently reliable measurements of a reduction in the value of goodwill to incorporate them in their valuation assessments" (pp. 56).

The following ordinary least squares regression model (OLS) is used to evaluate the value-relevance of goodwill-impairment losses.

$$MV_{it} = \alpha_0 + \beta_1 BV_{it} + \beta_2 NI_{it} + \beta_3 GWA_{it} + B_4 GIL_{it} + \varepsilon , \qquad (4.5)$$

where MV_{it} = Market value of firm i's equity at the end of the year wherein goodwill is tested for impairment.

BV_{it} = Value of firm *i*'s equity at the end of the year wherein goodwill is tested for impairment, minus goodwill's carrying amount at the same year-end.

NI_{it} = Net income at the end of the year wherein goodwill is tested for impairment, plus the amount of goodwill-impairment losses reported at the same year-end.

GWA_{it} = Goodwill's carrying amount at the end of the year wherein goodwill is tested for impairment, plus the amount of goodwill-impairment losses reported at the same year-end.

GIL_{it} = Goodwill-impairment losses reported at the end of t.

Following Lapointe-Antunes et al. (2009) and AbuGhazaleh et al. (2012), all the variables included in the regression model are deflated by the number of common shares outstanding. Following Isidro and Raonic (2012), I exclude all observations that do not lie within the 1st and 99th percentile of the pooled distribution, and to facilitate the estimation of the pooled OLS model (firms are not comparable to others in the pooled sample and/or in the cluster). To compare the value-relevance of goodwill-impairment losses across companies that

belong to different country clusters, I need to figure out which of these two clusters has a high absolute value for the slope coefficients[63]of goodwill-impairment loss (β_4), and whether that value is negative and statistically significant. Firms within the cluster with a significantly larger negative slope (β_4) will have more value-relevant goodwill-impairment losses compared to the other cluster.

4.5.7 Data and Sample Selection

Table 4.2 reports the number of countries included in the study.

Table 4.2 Selection of Country Sample

Population of countries	174
(-) Countries for which IFRS is not permitted, permitted or required for some companies	(82)
Countries for which IFRS is required for all their domestically-listed companies	92
(-) Countries that have adopted or intend to adopt IFRS after 2006 on a mandatory basis (i.e., late adopter countries)[64]	(9)
Countries that have adopted IFRS for annual reporting periods prior to 2006	83
(-) Countries with insufficient country/firm data	(66)
Country Sample	17

Note: This table shows the number of countries in the study's sample. The sample is restricted mainly to countries where IFRSs have been adopted since 2006 on a mandatory basis, and countries with sufficient data.

The following procedures were used to select the study's sample. First, I initially included countries that meet the following three criteria:

[63] From an estimated slope coefficient, one can know: (i) the direction of the impact (positive/increase or negative/decrease) that an independent variable may have on a dependent variable, and (ii) by how much the dependent variable changes (value or magnitude) when the independent variable increases or decreases (Pedace, 2013).

[64] Unlike Glaum et al. (2015), I have only included countries mandating the use of IFRSs for all their domestic listed companies. Although Glaum et al. (2015) claimed to analyse the determinants of goodwill-impairment decisions for firms that are mandatorily applying IFRSs, they actually included firms domiciled in countries for which IFRSs have been adopted on a voluntary basis, such as Israel, New Zealand, and Switzerland. Israel and New Zealand, for example, mandated the use of IFRSs for public companies starting 1 January 2008 and 1 January 2007 respectively (Deloitte, 2015), whilst Switzerland, required IFRS only for certain listed companies, as registrants at the main board of the Swiss Exchange are required to use either IFRS or US GAAP (PwC, 2014; Deloitte, 2015).

(i) Countries for which IASs/IFRSs are required[65]for the consolidated statements of all listed companies prior to 2006[66]. Accordingly, countries where IFRSs are prohibited, permitted and required for some domestically-listed firms are excluded.

(ii) Since the availability of a country's institutional data also limited the selection of countries, I included only the ones that were included in Djankov et al. (2008) study, and Blaylock et al. (2012).

(iii) Since the number of firms varies considerably across countries, because of differences in the size of the country itself, and the size of a country's equity markets, as well as the availability of complete data, it was decided to screen the country samples with regard to the total number of firms with goodwill for each country. If the number of firms with goodwill was less than 30 for any country, the firms of that country were dropped from the empirical analysis. I use this restriction to "avoid lopsided representation of countries in the study" (Jaggi and Low, 2000, p. 504), and to "increase the homogeneity of the sample and the comparability of the results across countries" (Hung, 2001, p. 411).

As a result of non-availability of country/firm data, 66 countries were dropped from the sample, resulting in a sample of 17 countries (A full list of excluded countries is provided in Appendix 6).

[65] According to Francis et al. (2005), "voluntary disclosure incentives appear to operate independently of country-level factors" (p. 1125).

[66] Detailed information about the adoption of IASs/IFRSs by country can be found in the publications of (PwC, 2013; Deloitte, 2015; IFRS, 2015).

Table 4.3 reports the number of companies included in the study (2, 466).

Table 4.3 Description of the sampling procedures

Population of Companies	7,802
(-) Companies operating in financial industries	(1,739)
Non-financial companies	6,063
(-) Companies with non-positive (i.e., negative and zero) goodwill for any year in the 2006-2012 period	(2,356)
Companies with positive Goodwill during the 2006-2012 period	3,707
(-) Foreign Companies	(201)
Domestically-listed companies	3,506
(-) Companies that do not use IFRS from 2006 onwards[67]	(1,040)
Sample Companies	2,466[68]

Note: This table shows the number of companies in the study's sample. The sample is mainly restricted to non-financial companies, and companies with positive goodwill over the period 2006-2012.

The following selection criteria were used. The total number of companies for the 17 sample countries was 7,802. From this number the following types of companies were excluded:

(i) Subsidiaries of foreign companies or foreign companies listed on local exchanges are excluded for two reasons. First, these companies might be subject to different rules. For instance, non-EU companies listed on the Euronext Paris stock exchange can apply Japanese, US or Canadian GAAP. Second, a foreign corporation will also be subject to a different taxation system.

(ii) As in prior goodwill-impairment studies (e.g. Francis et al., 1996; Riedl, 2004; Abughazaleh at al., 2011; Amiraslani et al., 2013), companies in the financial services industry, i.e., those with four-digit Industry Classification Benchmark (ICB) codes between (8000) and (8995), were excluded from the sample, as certain

[67] In order to ensure that all sample firms are applying IFRSs, I only include those firms with a Worldscope accounting standard followed code equal to 23 (IFRS). To check for the validity (i.e. accuracy) of this indicant, a manual check on a random sample of firms' annual reports has been performed.

[68] If I excluded firms that did not use IFRS from 2005 onwards, I would end up with only 1,615 firms that have adopted IFRS from 2005 onwards.

regulatory provisions (or specific disclosure requirements) normally apply to these companies, and thereby creating different incentives/opportunities from those in non-financial industries to manage accounting figures (Healy and Wahlen, 1999). I, therefore, restrict the sample to non-financial industries to increase the sample homogeneity and comparability of research findings.

(iii) Non-IFRS companies that do not use IFRSs as the framework for preparing their consolidated financial statements.[69]In addition, I exclude: (i) Firm/Year-observations with negative book value of equity, negative goodwill/impairment; and

(iv) Firm/Year-observations with missing data.

The final sample is 2,466.

The data were obtained from Thomson Financial's Datastream and Worldscope databases. The dataset contains accounting/financial data on publicly-listed companies across economies which use different currencies. I convert the data from local currency to the United States Dollar (USD) using Worldscope currency.

4.5.8 The Study's period

This study restricts the sample period to (2007-2013) to ensure that only mandatory adopters of IFRSs are included in the sample. Consistent with prior research (e.g. Isidro and Raonic, 2012; Amiraslani et al., 2013), I exclude any observations falling within the first year of

[69] On this point, I am truly indebted to Professor Donna Street, whose insightful comments and constructive suggestions have helped me to think more carefully, critically, and precisely about this issue.

mandatory adoption of IFRSs (i.e., 2005). IFRSs had become mandatory in Europe (EU/EEA) and many countries (e.g. Australia and South Africa) for accounting periods beginning on or after 1 January 2005. Hence, theoretically, 2005 denotes the first year in which 'all' publicly-listed companies would generally prepare their consolidated financial statements in compliance with the requirements of IFRS standards. This, however, is only true for companies with fiscal year ending on 31 December 2005. As Glaum et al. (2013) state, "Companies with year-ends earlier than 31 December tended to postpone IFRS adoption until 2006" (p. 197). Isidro and Raonic (2012) also suggest that "for certain firms with fiscal year end different from 31st December, the adoption of IFRSs occurs only in year 2006" (p. 28).

One way of solving this problem is by dropping companies with year-end earlier than 31 December 2005 (or companies using other than FRS after 2005). This particular solution, which is adopted by Glaum et al. (2013) and André et al. (2015), will not be without cost, however, since it reduces the number of firms included in this study by 1891 firms. In order to avoid loss in sample firms, I have adopted a more 'practical' solution, excluding the observations of the year 2005. This solution also resembles the procedure adopted by Isidro and Raonic (2012). This is unlike Glaum et al. (2015), who included 2005 observations in their study.

In addition to the above, excluding 2005 has several advantages. First, it will alleviate the effect of an early adoption of IFRSs. This is discussed in detail below. Second, because the analyses contain variables measured using lagged data, this restriction procedure will "avoid

intermingling financial data from both regimes within a single observation, [70]and should result in a better specification for my analyses" (Riedl, 2004, pp. 835). Third, given the impairment standard was published in 31 March 2004, and IFRS has become effective for periods beginning on or after 1 January 2005, firms had relatively little time to adapt their accounting systems when implementing IFRS 3 and IAS 36 in their first IFRS financial statements (Riedl, 2004; Glaum et al., 2013). Thus, it may take several years before these firms can fully understand the disclosure requirements associated with impairments of goodwill.[71]As Nobes (2011a) asserts, firms adopting IFRSs for the first time are more likely to continue with their previous accounting policy choices, wherever possible, resulting in a lower level of compliance with IFRSs in the first year(s) after the transition to IFRS standards. It is more likely that consistency in the application of goodwill-impairment testing will increase over time between countries. This phenomenon is known as regression to the mean, mediocrity, or the catch-up effect. Countries can imitate and learn from other leading countries, i.e. knowledge spill-over. There will be a consistent diminution of variance not among the mean groups but among individual enterprises/countries.

4.6 Summary

Based on the existing theoretical and empirical literature, testable hypotheses were developed to answer the research question of what events and circumstances induce firms, which operate in different countries, to report impairment losses of high quality. Taking into account the national environment within which firms operate, I hypothesised that the

[70] Consistent with this view, Abdul Majid (2013) wrote, "There was an information gap concerning the opening goodwill balance at the initial year of the implementation of FRS 3 provided by Datastream… the database did not provide an opening goodwill balance in 2006 on the new basis" (p. 147, emphasis added).

[71] Untabulated results indicate that no additional significance is added to the model when an indicator variable was added to capture whether the firm has adopted IFRS for annual periods beginning before 2006.

impairments of goodwill are conceptually a function of factors underlying the economic performance of firms, and managers' reporting incentives, as well as the constraints that are placed upon them. This is particularly true since the impairment standard (IAS 36) is written in a way that encourages, if not necessitates, the exercise of managerial judgements (for example, identifying possible triggering events that lead to the impairment of goodwill, allocating goodwill to CGU(s), estimating the future cash flows, and choosing the discount rate).

Whether or not managers use their own judgement efficiently to report impairment losses that are more dominant in their association with economic factors than reporting incentives will depend upon the differing constraints imposed on them. These constraints include a variety of factors that are typically outside the control of firms (i.e., external), including legal and tax system, investor protection, quality of legality and stock market development. Therefore, it is more likely that the quality of impairment losses will be high when companies have BIG4 auditors, and operate in countries characterised by Common-law judicial system, low book-tax alignment, strong investor protection laws and enforcement, and equipped with more developed equity markets. The chapter also outlines the research design, country selection/sampling, specific data collection methods, and finally methods and processes of analysis.

5 Chapter 5: The Determinants of Goodwill-impairment Losses

5.1 Introduction

This chapter reports the empirical results with respect to the first research question of the study, i.e., to investigate the factors that influence goodwill-impairment amounts. It is structured as follows. Section 5.2 provides descriptive statistics and correlation coefficients for the variables used in the regression analysis. Section 5.3 presents the results of the multivariate Tobit analysis relating to the determinants of goodwill-impairment amounts (after controlling for country, industry and firm-specific characteristics), as well as the results of alternative model specification variable definitions. In this section, I also investigate the direct and indirect impact of institutional factors on abnormal goodwill-impairment amounts.

5.2 Descriptive Statistics

Table 5.1 shows the total number of firm-year observations per country over the sample period (2007-2013).

The number of observations per country ranges from 217 for Portugal to 2,961 for Australia. As can be seen from the table, Australia and UK had both a higher representation (17.15% and 14.92% respectively), followed by those firms operating in France and Germany, which comprised 12.53% and 10.50% respectively, which are much higher than the overall mean proportion amounted to approximately 6% of the sample observations. These four countries, together, comprise more than 55% of the sample observations. This is not surprising since these countries have the largest economies and have the largest stock markets amongst the sample countries.

Table 5.1 The distribution of the Sample by Country

Country	Freq.	Percent	Cum.
Australia	2,961	17.15	17.15
Austria	245	1.42	18.57
Belgium	406	2.35	20.92
Denmark	441	2.55	23.48
Finland	609	3.53	27.01
France	2,163	12.53	39.54
Germany	1,813	10.5	50.04
Greece	560	3.24	53.28
Italy	1,029	5.96	59.25
Netherlands	371	2.15	61.39
Norway	497	2.88	64.27
Poland	840	4.87	69.14
Portugal	217	1.26	70.4
South Africa	959	5.56	75.95
Spain	497	2.88	78.83
Sweden	1,078	6.24	85.08
United Kingdom	2,576	14.92	100
Total	17,262	100	

In contrast, firms operating in Portugal, Austria, Netherland, Belgium, and Denmark have a lower presentation within the research sample, comprising approximately 1.26%, 1.42%, 2.15%, 2.35% and 2.55% of the sample observations respectively. While the rest of the 17,262 sample observations were somewhat evenly divided between countries; relatively higher numbers are found in Sweden, Italy, South Africa, and Poland. The remaining observations were Finland, Greece, Spain, and Norway. These indicate that the sample observations used in this study to run the tests were not equally distributed among countries. This is despite the fact that the companies have been selected without prejudice.

Table 5.2 shows the total number of firms reporting goodwill impairment losses, by country, over the sample period (2007-2013), on an annual basis.

Table 5.2 The Number of Firms Reporting Goodwill-Impairment Losses by Year and Country

Country	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**Total**
Australia	34	49	79	50	65	65	46	388
Austria	9	10	12	9	6	6	5	57
Belgium	8	10	5	9	6	5	3	46
Denmark	9	15	19	6	6	4	2	61
Finland	11	19	20	12	10	13	12	97
France	44	65	74	58	65	58	42	406
Germany	30	51	59	32	33	32	36	273
Greece	3	2	6	7	13	3	1	35
Italy	13	22	18	19	26	13	7	118
Netherlands	10	16	13	8	15	12	3	77
Norway	11	16	15	11	12	3	5	73
Poland	7	8	9	11	8	11	3	57
Portugal	2	5	7	6	11	5	4	40
South Africa	27	29	34	35	35	31	34	225
Spain	5	8	9	12	17	7	11	69
Sweden	13	19	24	20	22	12	14	124
United Kingdom	42	63	69	52	56	40	46	368
Total	278	407	472	357	406	320	274	2,514

As can be seen, France, Australia, UK, Germany and South Africa have a greater number of impairment observations during the sample period, indicating that firms operating in those countries seem to impair their goodwill more often, when compared to their counterparts in countries such as Greece, Portugal, Belgium, Austria, Poland, and Denmark. This may be true only for some countries, but not for all.

By taking the total number of observations per country into consideration, it shows that firms operating in Greece, Poland, and Belgium are less likely to report goodwill impairment losses. Greek firms have fewer observations of impairment losses (35 out of 560), implying that Greek firms seemed reluctant to impair their goodwill. Interestingly, the impairments of goodwill occur more frequently in South African and Austrian firms (23.46% and 23.27% respectively). In addition, the last row of the table shows that firms, regardless of their own jurisdiction, have been found to recognise goodwill-impairments more frequently during the global financial crisis period (2008-2009) than any other period of the study. This is not surprising, since firms that report goodwill-impairment losses during a crisis period will be judged less harshly than firms doing so during a normal period. However, the pre-crisis period (2007) and the post-crisis period (2012-2013) have both witnessed a significant decrease in the number of firms recording goodwill-impairments.

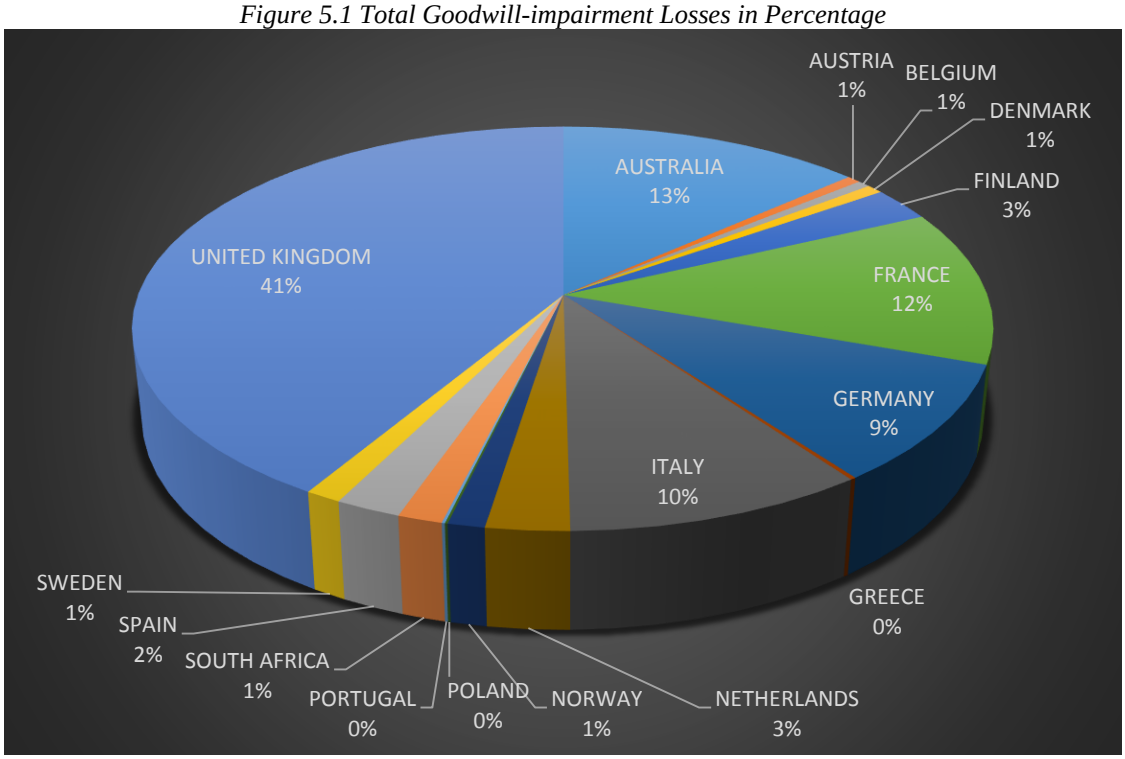
Table 5.3 displays the total amount of goodwill-impairment losses (in USD million) for each country during the study period (2007-2013).

Table 5.3 Total Amounts of Goodwill-impairment Losses (in USD million) per Country

Country	2007	2008	2009	2010	2011	2012	2013	Total
Australia	50.95	6,502.93	1,530.26	1,269.67	9,737.40	10,999.11	4,874.41	34,964.73
Austria	38.54	119.61	683.02	197.09	419.96	39.05	79.87	1,577.14
Belgium	73.65	596.29	54.59	26.81	20.22	200.54	477.67	1,449.77
Denmark	552.34	977.17	161.81	72.94	92.02	1.93	39.34	1,897.55
Finland	1,066.60	975.38	1,508.55	163.07	1,586.35	1,251.30	565.21	7,116.46
France	1,012.78	8,996.51	4,436.11	2,799.46	7,368.32	5,461.82	2,456.89	32,531.89
Germany	1,583.64	5,136.73	6,759.39	808.83	4,536.38	4,962.75	863.21	24,650.93
Greece	11.10	27.64	3.38	35.98	369.43	11.44	19.58	478.55
Italy	67.75	416.47	516.54	1,207.60	12,277.28	10,862.20	33.96	25,381.80
Netherlands	41.21	3,187.40	848.87	30.19	1,453.16	1,289.36	149.85	7,000.04
Norway	653.43	640.40	490.58	131.80	327.37	774.55	89.75	3,107.88
Poland	4.22	15.23	80.02	31.29	10.64	91.90	1.93	235.23
Portugal	0.41	32.10	45.13	38.75	128.31	14.74	9.10	268.54
South Africa	93.15	517.76	178.43	574.44	341.21	1,760.27	308.81	3,774.07
Spain	68.39	129.42	117.59	327.10	1,108.50	669.74	3,128.00	5,548.74
Sweden	416.58	313.29	338.99	839.34	945.36	98.68	103.27	3,055.51
United Kingdom	23,547.76	12,775.63	14,982.22	5,300.38	19,609.64	14,956.69	17,002.78	108,175.10
Total	29,282.50	41,359.96	32,735.48	13,854.74	60,331.55	53,446.07	30,203.63	261,213.93

Figure 5.1 shows the goodwill impairment amounts by country as percentage of the total of all countries' goodwill impairment losses.

Figure 5.1 Total Goodwill-impairment Losses in Percentage



Note: This figure shows the goodwill impairment amounts by country as a percentage of the total of all countries' goodwill impairment losses.

As shown in Table 5.3 and Figure 5.1, the hardest hit counties in terms of actual dollar impairment losses were the UK, which accounted for almost 41% of the goodwill-impairment recognised, followed by Australia, France, Italy and Germany (despite higher presentation of firm sample, German companies tend to report lower amounts of impairment losses but higher frequency compared to their Italian counterparts), which accounted for between 13% and 9% of the total goodwill-impairment losses. Poland, Portugal, Greece, Belgium, Austria (although Austrian firms seemed to have recorded more frequently but smaller amounts of impairment losses) and Denmark registered the lowest goodwill-impairment losses, which represented less than 1% of total impairment losses.

Clearly, from the table above, it can be seen that there was an almost fourfold increase in the impairment losses recognised between 2010 and 2011. In total, $60.33 billion of impairment losses were recognised in 2011, amounting to approximately 23% of the reported goodwill-impairment. Comparatively, the 2010-period saw the lowest level of total impairment losses, which accounted for only about 5% of companies' total impairment losses.

Overall, goodwill-impairment continued to decline across a number of countries throughout the remainder of the study period. This downward movement represents a continuation of the trend in 2012-2013, when fewer companies took less goodwill-impairment charges compared to 2011. In 2008, there was, however, an approximately 41.24% increase in the total amount of impairment losses incurred in the wake of the global financial crisis. Goodwill-impairment losses surprisingly decreased by more than 20.85% in 2009 over 2008, in spite of the increase in the number of impairment observations from 407 to 472. This was surprising because impairment losses were supposed to not only increase in frequency, but also in terms of actual dollar amounts[72], particularly in the later recession period. When the impairment of goodwill occurs more often but in lower amounts during crisis periods, in which companies are not only expected to record impairment losses more frequently but also in greater amounts; then companies can send a –misleading- massage to regulators, investors, and auditors that they adhere to the impairment standard, and the resultant impairment losses are incurred in response to deteriorating economic conditions under which companies operate.

[72] According to Barth et al. (2008), "higher quality accounting results in a higher frequency of larger losses" (pp. 477).

Table 5.4 provides information concerning the cultural and institutional characteristics for the countries sample.

Table 5.4 Cultural and Institutional Characteristics by Country

Country	Legal Origin	Legal System	Investor Protection	Equity Market Development	Quality of Legality	Book-Tax Conformity	Uncertainty Avoidance	Individualism	Power Distance	Masculinity	long-Term Orientation
Australia	English	Common	8.7	141.03	11.91	0.243	51	90	36	61	21
South Africa	English	Common	10.27	232.95	12.24	0.131	49	65	49	63	34
United Kingdom	English	Common	11.04	144.36	11.5	0.415	35	89	35	66	51
Belgium	French	Code	8.22	76.73	11.22	0.231	94	75	65	54	82
France	French	Code	7.27	95.69	11.12	0.581	86	71	68	43	63
Greece	French	Code	3.6	56.89	9.52	0.579	100	35	60	57	45
Italy	French	Code	6.68	42.95	8.28	0.534	75	76	50	70	61
Netherlands	French	Code	4.71	100.78	11.54	0.575	53	80	38	14	67
Portugal	French	Code	6.82	53.44	10.07	0.671	99	27	63	31	28
Spain	French	Code	6.35	110.52	9.74	0.785	86	51	57	42	48
Austria	German	Code	5.37	46.11	11.43	0.77	70	55	11	79	60
Germany	German	Code	5.82	60.67	11.46	0.123	65	67	35	66	83
Poland	German	Code	6.26	46.02	9.49	.	93	60	68	64	38
Denmark	Scandinavian	Code	7.63	83.35	11.78	0.399	23	74	18	16	35
Finland	Scandinavian	Code	7.08	100.71	12.18	0.604	59	63	33	26	38
Norway	Scandinavian	Code	7.56	81.09	12.04	0.126	50	69	31	80	35
Sweden	Scandinavian	Code	6.78	126.88	12.47	0.424	29	71	31	5	53

Note: The table shows the cultural and institutional characteristics of the 17 countries included in the study's sample.

As can be seen from the table, stronger institutions have been found in countries whose legal origins are English and Scandinavian. The table visually summarises the main findings, where dark (light) grey areas represent high (low) values for investor protection, development of equity market, and quality of legality, but low (high) book-tax conformity (Book-Tax). As Table 5.4 illustrates, countries differ considerably in terms of their underlying institutional and cultural structures. This does not, however, rule out that a robust pattern in institutional/cultural characteristics exists across certain countries. The table clearly shows that many of these institutional/cultural characteristics are interrelated. The high concentration of dark cells in the upper and lower part of the table suggests that the variables are not independent.

That is not surprising. Many scholars in the fields of accounting and finance (e.g. La Porta et al., 1997, 1997, and 2006; Djankov et al., 2008; Leuz, 2010; Nobes and Parker, 2010; Choi and Meek, 2011) documented that English-law origin countries tend to have a higher degree of investor protection, a relatively high quality of law enforcement and, consequently more developed equity markets. As Table 5.4 illustrates, grouping countries by legal origin produces similar results. English-law origin countries display the highest scores in almost all characteristics of institutions, and the lowest for book-tax conformity. The only exception is the quality of legality, for which Scandinavian countries tend to score higher. The table also reveals that English and Scandinavian countries may be contrasted with French countries on the one hand, and German countries on the other. In particular, English and Scandinavian countries are exhibiting relatively lower levels of power distance/uncertainty avoidance, relatively higher levels of individualism, and short-term orientation, in contrast with countries of French and German legal origin.

Table 5.5 displays a summary of descriptive statistics for all of the institutional and cultural variables included in this study, except for the legal system which is a categorical variable (common vs code law).

Table 5.5 Descriptive Statistics for Institutional and Cultural Variables

Variable	**Mean**	**Std. Dev.**	**Min**	**Max**
Invstr_Prtct	7.07	1.84	3.60	11.04
EqtyMrkt_Dvlp	94.13	48.36	42.95	232.95
Qlty_Lglty	11.06	1.20	8.28	12.47
Book_Tax	0.449	0.224	0.123	0.785
Pwr_Dst	44	18	11	68
Indvdlsm	66	17	27	90
Msclnty	49	23	5	80
Uncrtnty_Avd	66	25	23	100
LngTrm_Ornt	50	18	21	83

As shown in the table above, there are considerable differences across countries in the degree of development of equity markets (EqtyMrkt_Dvlp). Therefore, international accounting standards setters and regulators should step up their efforts in the development of equity markets to narrow the differences and catch up. From the data in Table 5.4, it is apparent that South Africa, UK, Australia, and Sweden have relatively well-developed domestic equity markets compared to any other country in the sample. In particular, development of equity market has a score of 233 for South Africa, 144 for the UK, 141 for Australia, and 127 for Sweden. This indicates that development of equity markets can be a good proxy and less arbitrary than any other institutions, absorbing most of the institutional differences across countries.

Relatively, quality of legality (Qlty_Lglty) and investor protection (Invstr_Prtct) both have lower standard deviation, 1.20 and 1.84 respectively, of which investor protection has the

lowest standard deviation (when compared to its mean σ/μ) and exerts the least influence on environmental differences across the 17 countries included in the sample. It also means that the environmental differences across the sample of countries are mainly represented in book-tax conformity (Book_Tax), and EqtyMrkt_Dvlp, with little differences in Qlty_Lglty and Invstr_Prtct.

Table 5.6 presents the summary of the descriptive statistics for the dependent and independent variables for a pooled sample of 17 countries over the 2007-2013 period.

Table 5.6 Descriptive Statistics for Economic/Reporting Incentives Variables

Variable	Obs	Mean	Std. Dev.	Min	Max
IMP	17,142	0.005	0.031	0.000	0.860
GW	16,477	0.154	0.166	0.000	0.969
M/B	16,474	2.592	8.971	0.019	377
ΔMrktCap	16,820	0.213	1.729	-0.982	105.690
ΔOCF	17,134	0.005	1.256	-74.875	73.817
ΔSALES	17,209	0.156	10.654	-783	1,038
ΔROA	16,882	259	36,515	-184,763	4738041
Earn_Volt	17,255	18.509	635.146	0.000	31,120
Price_Volt	17,045	34.107	11.530	9.746	80.569
ΔIndMD_ROA	17,262	-0.350	1.141	-3.105	3.440
ΔGDP	17,262	1.004	2.734	-8.864	7.202
OWN	17,017	43.587	23.219	0.046	99.500
ΔDebt_Ratio	17,186	42.535	19,503	-1771451	1771378
BATH	17,262	-0.203	12.120	-1,312	0.000
SMOOTH	17,034	0.121	2.585	0.000	173.100
SIZE	17,238	5.796	2.372	-4.605	12.894

As can be seen, the amount of goodwill-impairment, on average, represents a small proportion (0.5%) of total assets, when taking into account both impairing and non-impairing

firms. Note that impairing observations represent roughly 15% of the total observations. If only observations that have impairment losses were kept, the average percentage of goodwill-impairments would increase to approximately 4% of total assets. The table also highlights the materiality of goodwill, which comprised, on average, over 15% of assets for the full pooled sample.

5.3 Regression Analysis

Since the reporting amounts of goodwill-impairment losses (i.e., the dependent variables in this study) are non-negative integers and they are censored at Zero, many econometricians (e.g. Gujarati, 2009) arguably suggest that the Tobit model is more appropriate than OLS. The use of OLS is, therefore, more likely to produce biased (downward) and inconsistent parameters estimators (i.e., linear regression that ignores this feature of censored data tends to be heavily skewed toward underestimating the actual slope of the data).

5.3.1 Multicollinearity Analysis

There are many ways to detect the multicollinearity problem among independent variables. One way is to examine the matrix of correlations for possible interactions among two independent variables. Another way to detect multicollinearity is to calculate the tolerance or its inverse (VIF), bearing in mind that if collinearity is present, STATA will automatically drop one of the regressors and indicate its coefficient value (dropped).

5.3.1.1 Correlation Coefficients

Before the regression model was run, data were checked for multicollinearity. Table 5.7 presents the relationship between each pair of independent variables included in Model (1), as well as the dependent variable. These correlations are based on the pooled sample of firm-year observations over the sample period (2007-2013).

The pairwise correlations table shows that almost all actual/economic (with the exception of ΔGDP) impairment proxies were correlated, in the predicated direction, with goodwill-impairment losses (IMP). However, only three of them (GW, ΔMrktCap, and Price_Volty) were statistically significant at conventional levels. These three variables appear to be more important than any other single variable in the model (M/B, ΔOCF, ΔSALES, Earn_Volt, and). In particular, GW and Price_Volt were both positively and significantly correlated with IMP, corresponding to the predicted signs. ΔMrktCap was negative and statistically significant. Surprisingly, the table also shows that all reporting incentives proxies (OWN, ΔDebt_Ratio, BATH, and SMOOTH) failed to show statistically significant correlations with goodwill-impairment losses (IMP). This is because the bivariate partial correlations shown in Table 5.7 fail to take into account how multiple independent variables interact with each other and ultimately affect the dependent variable. This joint effect is considered in a multivariate analysis, but not in bivariate analysis. As Beierle and Cayford (2002) emphasise, the main advantage of multivariate over bivariate correlation is the ability to control for the influence of one (or more) variables when examining another.

Table 5.7 presents the correlation coefficients for the variables of interest and their level of significance.

Table 5.7 Pairwise Correlations

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
1. IMP	1.000															
2. GW	0.1931*	1.000														
3. M/B	-0.0280*	-0.0260*	1.000													
4. ΔMrktCap	-0.0305*	-0.0186*	0.0499*	1.000												
5. ΔOCF	-0.002	0.004	0.005	-0.0476*	1.000											
6. ΔSALES	-0.003	-0.001	-0.000	0.1711*	0.1949*	1.000										
7. ΔROA	-0.013	0.004	0.011	0.0177*	-0.007	0.004	1.000									
8. Earn_Volt	0.003	0.013	-0.002	-0.004	-0.000	-0.000	-0.000	1.000								
9. Price_Volt	0.1303*	0.0520*	0.0401*	0.0967*	-0.001	0.0176*	0.010	0.003	1.000							
10. IndMD_ROA	-0.015	0.0267*	0.0340*	0.0804*	-0.001	0.009	0.005	0.001	-0.009	1.000						
11. ΔGDP	0.0240*	-0.004	0.0348*	0.005	0.000	0.0158*	0.007	-0.015	0.1113*	0.3917*	1.000					
12. OWN	-0.010	-0.1546*	-0.0363*	-0.010	0.009	0.002	-0.004	0.013	-0.007	0.001	-0.0299*	1.000				
13. ΔDebt_Ratio	-0.002	-0.010	-0.014	-0.0379*	0.003	-0.001	-0.1289*	-0.000	0.004	0.002	-0.001	0.000	1.000			
14. BATH	0.002	0.014	-0.008	-0.1062*	0.0873*	-0.0465*	0.003	0.000	-0.0262*	-0.0211*	-0.009	0.000	-0.0767*	1.000		
15. SMOOTH	-0.004	-0.0308*	0.0282*	0.0956*	-0.002	0.0330*	0.3117*	0.001	0.0668*	0.0250*	0.0259*	0.011	-0.002	0.001	1.000	
16. SIZE	-0.0733*	0.0228*	-0.0628*	-0.0988*	0.012	-0.0231*	0.0272*	-0.014	-0.5666*	-0.0282*	-0.1531*	-0.2160*	-0.0250*	0.0584*	-0.1217*	1.000

*The * denotes correlation coefficients with values greater than or equal to 5% significance level.*

Diagnostic tests were further carried out to check for the problems of multicollinearity in the data. One of the rules of thumb to detect multicollinearity is that the pairwise correlation between two regressors is near or above 0.8 (Gujarati, 2009). A correlation higher than 0.7 is considered strong, below 0.4 is weak, and between these thresholds is a moderate relationship. The table shows that the independent variables do not highly correlate with one another. The pairwise relationships between the independent variables are mostly very modest. The highest pairwise correlation coefficient is 0.57 between Price_Volt and SIZE, indicating that there is no sign of collinearity among the independent variables included in the empirical analysis.

5.3.1.2 VIF

Another statistical method for detecting multicollinearity is VIF. However, VIF command does not work after running a Tobit model in STATA. In order to produce tolerance and VIF values, I ran OLS regression using all the variables included in the Model (1). Untabulated results showed that no variable in a VIF value more than the critical cut point of 10. The highest VIF values are 6.96 for ΔSALES, 4.74 for BATH, and 2.21 for ΔOCF.

5.3.2 Heteroscedasticity

In order to check for the presence of heteroscedasticity, the Breusch-Pagan/Cook-Weisberg test was carried out in this study, and the null hypothesis (the error term is homoscedastic) was strongly rejected and the presence of heteroscedasticity is supported. To account for the violations of the homoscedasticity assumption, vce (robust) was added to all regression commands.

5.3.3 The Normality Assumption

Since the residuals from the Tobit model are not well defined (i.e., residuals will not be normal because of censoring), testing the errors for normality does not apply to the censored regression model. Based on the central limit theorem, in a sufficiently large number of observations, residuals will be asymptotically normally distributed (Gujarati, 2009). According to Amemiya (1973), cited in Baltagi, (2008, p. 390), "the maximum likelihood estimate (MLE) is, in general, consistent, asymptotically normal and efficient". This explains why the majority of on asset write-offs (and goodwill-impairment) studies have considered the Tobit model as the theoretically correct model to control for the censorship by including all firms, those reporting zero impairment losses and those reporting positive impairment losses.

5.3.4 Autocorrelation

This study does not test for autocorrelation (error terms are correlated), since autocorrelation appear to be more common in macro panels with a long time series (20-30 years). In general, autocorrelation does not apply to micro panels (with very few years). Besides, many econometricians (e.g. Baltagi, 2008) suggest that autocorrelation is more likely to occur in time-series data rather than in cross-sectional data.

5.4 Determinants of Goodwill-Impairment Losses: Empirical Analysis

Table 5.8 presents results for the estimation of four model variants. In model (1), goodwill-impairment losses are explained solely by micro/macro-economic factors and reporting incentives, after controlling for the effects of size, ownership structure, industry, country, and financial crisis. Model (2a) includes, in addition to the specified predictor variables, nine additional variables that capture the region-specific cultural, legal, institutional and governance arrangements. Model (2b) is a modified version of model (2a). It includes the

extent of book-tax conformity (Book_Tax) as an institutional variable, along with all of the variables in the model (2a), to capture the influence of book-tax alignment on goodwill-impairment amounts. Model (4) employs interaction terms between economic factors and reporting incentives, as well as organisational/environmental constraints to understand more thoroughly how these factors jointly impact the reporting of goodwill-impairment losses.

All models are estimated using Stata (version 13). The coefficients in all models are jointly significant according to the F-test, suggesting that all models are well specified. The calculated F-statistic for model (2a), which entails all cultural and institutional variables (Book_Tax), is found to be higher than the F-statistic for the other models, indicating an improved overall goodness-of-fit. The high value of the F-statistic can be attributed to the lower number of variables. All models are estimated with robust errors, as the robust option produces standard errors that are asymptotically robust to panel heteroscedasticity. For all models, the default industry is utilities, and the default country is Australia.

Table 5.8 Determinants of Goodwill-impairment Losses

Variable	Model 1	Model 2a	Model 2b	Interaction
GW	0.114***	0.113***	0.116***	0.538***
	(12.096)	(12.105)	(12.182)	(4.781)
M/B	-0.007***	-0.007***	-0.007***	0.007
	(-6.716)	(-6.787)	(-6.667)	(0.673)
ΔMrktCap	-0.003	-0.003	-0.003	-0.027
	(-1.424)	(-1.460)	(-1.513)	(-0.948)
ΔOCF	-0.001	-0.001	-0.001	0.426*
	(-0.524)	(-0.539)	(-0.463)	(1.893)
ΔSALES	-0.019**	-0.019**	-0.019**	-0.016
	(-2.040)	(-2.042)	(-1.996)	(-0.272)
ΔROA	-0.001***	-0.001***	-0.001***	-0.005
	(-2.878)	(-2.882)	(-2.868)	(-0.778)
Earn_Volt	-0.000	-0.000	-0.000	-0.001
	(-0.299)	(-0.252)	(-0.283)	(-0.997)
Price_Volt	0.001***	0.001***	0.001***	0.000
	(7.168)	(7.027)	(7.000)	(0.206)
ΔIndMd_ROA	0.002	0.001	0.001	0.036**
	(1.149)	(0.796)	(0.559)	(2.106)
ΔGDP	-0.001	-0.000	-0.000	0.000
	(-1.089)	(-0.360)	(-0.404)	(0.020)
OWN	0.000	0.000	0.000	0.000
	(0.758)	(1.431)	(1.628)	(0.419)
ΔDebt_Ratio	0.001***	0.001***	0.001***	0.002
	(3.245)	(3.135)	(3.346)	(1.028)
BATH	0.059	0.059	0.058	0.530
	(1.313)	(1.301)	(1.262)	(0.762)
SMOOTH	0.003***	0.003***	0.003***	0.440
	(2.987)	(3.014)	(3.024)	(0.784)
SIZE	0.008***	0.008***	0.008***	0.008***

	(10.255)	(10.511)	(10.658)	(6.053)
BIG4	-0.006*	-0.005*	-0.007**	-0.023
	(-1.815)	(-1.651)	(-2.050)	(-1.242)
Crisis Period	0.009***	0.009***	0.009***	0.007***
	(3.336)	(3.338)	(3.079)	(2.737)
Basic Materials	0.010	0.010	0.008	0.010
	(1.217)	(1.221)	(0.949)	(1.355)
Industrials	0.019***	0.019***	0.020***	0.023***
	(2.598)	(2.716)	(2.702)	(3.297)
Consumer Goods	0.016**	0.017**	0.018**	0.020***
	(2.152)	(2.218)	(2.372)	(2.806)
Health Care	0.005	0.006	0.005	0.000
	(0.552)	(0.649)	(0.602)	(0.008)
Consumer Services	0.022***	0.023***	0.023***	0.025***
	(2.857)	(3.040)	(2.938)	(3.369)
Telecommunications	0.034***	0.035***	0.038***	0.039***
	(3.331)	(3.476)	(3.600)	(4.062)
Utilities	0.027***	0.028***	0.028***	0.026***
	(3.159)	(3.247)	(3.161)	(3.073)
Technology	0.018**	0.019**	0.020**	0.022***
	(2.183)	(2.418)	(2.388)	(2.809)
Austria	0.009			
	(1.236)			
Belgium	-0.031***			
	(-3.897)			
Denmark	-0.009			
	(-1.207)			
Finland	-0.009			
	(-1.358)			
France	-0.016***			
	(-3.784)			

Germany	-0.016***			
	(-3.445)			
Greece	-0.061***			
	(-6.142)			
Italy	-0.036***			
	(-6.099)			
Netherlands	0.003			
	(0.390)			
Norway	-0.013**			
	(-1.974)			
Poland	-0.045***			
	(-6.182)			
Portugal	-0.023***			
	(-2.673)			
South Africa	0.017***			
	(3.524)			
Spain	-0.026***			
	(-3.767)			
Sweden	-0.021***			
	(-3.346)			
United Kingdom	-0.023***			
	(-4.889)			
Common Law		-0.026***	-0.027***	-0.067***
		(-3.193)	(-3.255)	(-2.653)
Pwr_Dst		-0.001***	-0.001***	-0.000*
		(-5.162)	(-4.544)	(-1.724)
Indvdlsm		0.001***	0.001***	0.000
		(3.874)	(3.756)	(0.861)
Msclnty		0.000	0.000	0.000*
		(0.757)	(0.007)	(1.667)
Uncrtnty_Avd		0.001***	0.001***	0.000*

	(4.964)	(4.400)	(1.653)
LngTrm_Ornt	-0.000	-0.000	0.000
	(-1.340)	(-1.383)	(0.615)
Invstr_Prtct	-0.001	0.000	0.015***
	(-0.465)	(0.073)	(2.739)
Qlty_Lglty	0.004**	0.003	0.005
	(2.075)	(1.253)	(0.770)
EqtyMrkt_Dvlp	0.000***	0.000***	0.000**
	(6.775)	(6.327)	(2.027)
Book_Tax		-0.008	0.003
		(-0.903)	(0.089)
BIG4#M/B			0.004*
			(1.833)
BIG4# ΔSALES			-0.023***
			(-2.699)
BIG4#ΔROA			-0.002***
			(-4.230)
BIG4#ΔGDP			-0.002*
			(-1.767)
BIG4#OWN			0.000*
			(1.831)
BIG4#BATH			0.136*
			(1.649)
BIG4#SMOOTH			0.267***
			(7.021)
LG_SYS#GW			0.148***
			(4.246)
LG_SYS#ΔOCF			-0.146**
			(-2.569)
LG_SYS#ΔROA			0.004***
			(3.013)

LG_SYS#Earn_Volt	0.001*
	(1.831)
LG_SYS#Price_Volt	0.001*
	(1.908)
LG_SYS#ΔDebt_Ratio	0.002**
	(2.260)
LG_SYS#BATH	-0.433***
	(-2.848)
Invstr_Prtct#GW	-0.050***
	(-6.659)
Invstr_Prtct#ΔOCF	0.030**
	(2.271)
Invstr_Prtct#Price_Volt	-0.000**
	(-2.322)
Invstr_Prtct ΔDebt_Ratio	-0.000*
	(-1.710)
Qlty_Lglty#M/B	-0.002***
	(-2.583)
Qlty_Lglty#ΔOCF	-0.051***
	(-2.728)
Qlty_Lglty#ΔIndMD_ROA	-0.004**
	(-2.410)
EqtyMrkt_Dvlp#ΔROA	-0.000***
	(-3.162)
EqtyMrkt_Dvlp#ΔGDP	0.000**
	(2.320)
EqtyMrkt_Dvlp#OWN	-0.000*
	(-1.932)
EqtyMrkt_Dvlp#BATH	0.006***
	(3.510)
Book_Tax#ΔOCF	-0.146*

				(-1.953)
Book_Tax#ΔSALES				-0.048**
				(-2.227)
Constant	-0.186***	-0.332***	-0.325***	-0.395***
	(-12.492)	(-11.182)	(-9.950)	(-4.808)
N	14,898	14,898	14,248	14,248
F-statistics	8.74	10.22	9.81	5.80
Prob > F	0.000	0.000	0.000	0.000

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Note: All variables are defined in Table 4.1

5.5 Results- Tobit Model (1)

Table 5.8 reports the results of the Tobit analysis relating to Model (1), and the discussion of the results is structured along the different types of variables tested (economic, managerial reporting incentives and control variables).

5.5.1 Economic Variables

The results show that the ratio of goodwill to total assets (GW) has a statistically significant and economically large positive effect on the amount of impairment losses (IMP). Holding everything else constant, a million-dollar increase in goodwill is associated, on average, with more than one hundred-thousand-dollar increase in the impairment losses. In this case, goodwill explains approximately 11% of the total variation in goodwill-impairment amounts.

As expected, M/B is negatively and significantly associated with the amount of impairment losses recognised on goodwill, meaning that firms whose M/B ratio is higher appeared to impair less of their goodwill, compared to those with lower M/B ratios.

ΔSALES and ΔROA were both negative and statistically significant. The results are consistent with a priori prediction based on prior research (e.g. Riedl, 2004) in the sense that impairing firms tend to perform poorly prior to the impairment recognition period (year t-1). In particular, all other things being equal, a 100% decrease in sales is associated with an increase in the impairment loss by more than 2%. Consistent with Beatty and Weber (2006), a significant positive relationship was found between Price volatility (Price_Volty) and the average amount of impairment losses recognised on goodwill.

Following previous research (e.g. Francis et al., 1996; Riedl, 2004), an industry-adjusted measure was included in the model to compare a company's performance to its industry norms. The change in industry's median return on assets (ΔIndMD_ROA) is not statistically significant. This is generally consistent with Jaafar and McLeay (2007), who emphasise that country effects are considerably greater than industry effects.

As expected, the direct effect of the annual growth of GDP on goodwill-impairment amounts is negative, but it is not significant. This is not surprising because the country dummies are expected to absorb all country-specific factors affecting the amounts of goodwill-impairments.

Considering the above statistics, it is possible to list the economic variables that have the greatest explanatory power in terms of predicting goodwill-impairment losses. In particular, the β values indicate that from the economic variables the value of goodwill upon which impairment is computed (GW) is the variable with the highest explanatory power followed by ΔSALES, and M/B.

Similarly, untabulated test results show that the marginal effects are the same as the Tobit coefficients. The economic indicator with the biggest marginal effect is GW (dy/dx = 0.114) followed by ΔSALES (dy/dx = -0.019) and M/B (dy/dx = -0.007). Holding all other variables at their means, one million-dollar increase in goodwill will lead to more than one hundred-thousand-dollar ($114,000) increase in the impairment losses. That is, GW, continues to be the best predictor of IMP, explaining about 11% of the variations in goodwill-impairment losses. Overall, the results show that the variables are significant both in a statistical and in an economic sense.

5.5.2 Managerial Reporting Incentives

Interestingly, results showed that firms that experienced increases in their debt ratio appeared to significantly record greater amounts of goodwill-impairment losses than their counterparts. This finding confirms the influential role of debtholders in constraining managers' ability to improperly use their impairment discretion, and thereby forcing the recognition of existing goodwill-impairments. Previous studies reported mixed results on this issue. Some of them are consistent with the finding of this study (e.g. Strong and Meyer, 1987; Elliott and Shaw, 1988; Zucca and Campbell, 1992), however, others are not (e.g. Riedl, 2004; Lapointe-Antunes et al., 2008; Zang, 2008), which found evidence consistent with Watts and Zimmerman's (1990) debt-covenant hypothesis suggesting that managers have incentives to strategically reduce goodwill-impairment losses to avoid an anticipated violation of the firm's debt covenants. An explanation for these seemingly contradictory results may be found in the work of Fields et al. (2001), who demonstrated that "the evidence on whether accounting choices are motivated by debt covenant concerns is inconclusive" (p. 275).

In terms of managerial reporting behaviour, SMOOTH was positive and significant at the 0.01 level, providing evidence consistent with the income smoothing hypothesis that managers of firms with unusually high earnings are more inclined to record higher amounts of goodwill-impairment losses. These results were generally comparable to those of previous studies (e.g. Francis et al., 1996; Riedl, 2004; Cowan et al., 2006; Van de Poel et al., 2009) in which asset/goodwill write-offs were strongly related to earnings smoothing reporting incentive proxy. However, no support was found for the Big Bath hypothesis as BATH was not found to be statistically significant. This was also the case for the concentration of ownership (OWN).

5.5.3 Control Variables

The table presents evidence, which is consistent with Watts and Zimmerman's political cost hypothesis, suggesting the impairing firms are considerably larger on the average than all firms within the pooled sample. Other things being equal, large firms recorded, on average, higher amounts of impairment losses than small firms. This finding was also consistent with the findings of previous studies (e.g. Zang, 2008), which indicate that firm size positively affects the amount of impairment losses recognised on goodwill. However, no support was found for the proposition that they type of auditor makes a difference to the magnitude of reported goodwill impairment losses.

In addition, results show that firms, on average, report more impairment losses during the crisis period (2007-2009) than after crisis period (2010-2013). Given the severity of the recent global economic crisis (the deepest economic crisis since the 1930s) and the need for a massive response by all firms, the actually reported goodwill-impairment losses during the crisis period (2007-2009) were significantly larger in magnitude than those reported after the crisis period (2010-2013). Specifically, sample firms experienced an increase of 9,180.1 (about $9 Billion of dollars) in the average dollar amounts of impairment losses reported during the crisis period.

In terms of the effect of industry, Telecommunications, and Utilities recorded the highest impairment losses. The lowest impairment losses were recorded by Oil & Gas and Health Care. The table also shows country differences in terms of goodwill-impairment amounts. The highest average dollar amount of impairment losses was reported by firms operating in South Africa, Austria and Australia. Countries such as Greece, Poland, Italy, and Belgium had the lowest average amount of impairment losses recognised on goodwill. According to Glaum et al. (2013), adding a set of dummy variables representing individual countries to

the explanatory variables in the model helps control for idiosyncratic country effects, but it does not tell us "which contextual variables are responsible for the observed country differences" (p. 190). I, therefore, test the impact of specific country-level predictors on the determination and reporting of firms' goodwill-impairment losses.

5.5.4 Robustness tests

To check for the robustness/sensitivity of these results, I estimated the Tobit model with an alternative measure of the tightness of debt covenants (Δ debt-to-equity ratio), while keeping the other variables constant. Untabulated sensitivity test showed that the estimated coefficient on the change in debt-equity ratio is still positive and statistically significant, indicating that a firm's debt level has a significant impact on a goodwill-impairment decision. I also carried out another sensitivity test by re-estimating the initial model with an alternative indicator of market-to-book ratio, equal to the market value of equity divided by the book value of equity at the end of t-1. Untabulated analysis indicated that M/B ratio did not materially change, either in terms of magnitude and statistical significance. The coefficient on M/B was statistically significant, with a negative sign.

Following previous researchers (e.g. Beatty and Weber, 2006), I included a dichotomous variable (SEGMENT) to capture the effects of company's organisational structure on the amount of goodwill-impairment losses. The variable takes the value of 0 for single-segment companies and 1 for multi-segment companies. Untabulated results reveal that the coefficient on SEGMENT is negative and significantly different from zero. This indicates that a switch from zero (single segment) to one (multiple segments), on average and other things being equal, is connected with a statistically significant decrease in the amount of goodwill-impairments of $18,426.69 (or 1.84%), indicating that firms with more than one

CGU appear to have made goodwill allocation decisions that allowed them to simply avoid the recognition of impairment losses.

Furthermore, and in line with previous goodwill-impairment studies (AbuGhazaleh, 2011; Abdul Majid, 2013 and 2015), I included a dichotomous variable (GW_ADD) that takes the value of 1 if a firm has addition(s) to its goodwill following mergers and acquisitions during the financial year, and 0 otherwise. The untabulated results show that the estimated coefficient on GW_ADD is negative (-.0423) with t-statistics of -13.54. This is significantly different from zero (p-value= 0.000). This finding seems to be compatible with Abdul Majid (2015) who also found evidence suggesting that firms with lesser additions to their goodwill appeared to have recorded goodwill-impairment amounts, which is $42,309 higher than their counterparts with greater additions to goodwill. I also included a variable, capturing the number of years with goodwill-impairment losses before the current year (GWI_Number), and found evidence consistent with the suggestion of Glaum et al. (2015)'s study that the higher the number of years with goodwill-impairment losses, the higher the amounts of impairment losses (GWI_Number, coefficient=.017, t-statistics= 20.18, p-value=0.000).

To check the stability and robustness of results, I also carried out another sensitivity test by considering alternative measures of big bath and earnings smoothing reporting incentives. The initial model was re-estimated using two alternative indicators of Bath and Smooth. Bath is an alternative to BATH and equals the change in pre-write off earnings from period t-1 to t, divided by total assets at the end of t-1 (if the value of this variable is negative) and 0 otherwise. Smooth is an alternative variable to SMOOTH, and equals the change in pre-write-off earnings from t-1 to t divided by total assets at the end of t- 1 (if the value of this variable is positive) and 0 otherwise. Untabulated analysis indicated that these two

alternative variables (Bath and Smooth) did not materially change, either in terms of magnitude and statistical significance. The coefficient on Smooth was statistically significant, with a positive sign, and replacing them in the model did not change the statistical inferences drawn above.

In order to evaluate the impact of modifying the definitions of the crisis period, two further robustness tests were performed on the baseline regression containing all of the predictors under consideration. The baseline specification was re-estimated after excluding those observations belonging to the 2007 year (which in effect considers all observations from the year 2008 through 2013, the resulting sample includes 12,921 observations). Furthermore, in order to ensure that all 2007 observations belong to the crisis period, which, it is generally agreed, began in the fourth quarter of 2007, the baseline regression was re-estimated by including only those observations with year-end that falls during the last quarter of 2007.

The comparison of sensitivity results between models, reported in the second and third columns of Table 16.1 (Appendix 7) exhibited some numerical differences between the coefficient estimates and their standard errors. These differences, however, were not significant in a practical sense (i.e., they were quantitatively close) and, therefore, did not materially change the qualitative conclusions about the impact of the crisis on goodwill-impairment amounts.

5.6 Cultural/Institutional Model (2a) and Model (2b)

5.6.1 Multicollinearity Analysis

Table 5.9 presents the correlation coefficients among cultural and institutional variables. As can be seen, the cultural and institutional variables do not highly correlate with one another. The pairwise correlations between the cultural and institutional variables are mostly very modest. The highest pairwise correlation coefficient is 0.688 between power distance (Pwr_Dst) and individualism (Indvdlsm), indicating that there is no sign of collinearity among the country-specific variables included in the empirical analysis.

Table 5.9 Pairwise Correlation among Cultural and Institutional Variables

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
1. Pwr_Dst	1.000								
2. Indvdlsm	-0.688*	1.000							
3. Msclnty	0.049	0.077	1.000						
4. Uncrtnty_Avd	0.217	-0.227	-0.026	1.000					
5. LngTrm_Ornt	-0.012	0.164	0.052	-0.017	1.000				
6. Invstr_Prtct	-0.189	0.178	0.0176	-0.442*	-0.010	1.000			
7. Qlty_Lglty	-0.602*	0.579*	-0.033	-0.499*	0.093	0.531*	1.000		
8. EqtyMrkt_Dvlp	-0.167	0.146	0.030	-0.399*	0.130	0.455*	0.553*	1.000	
9. Book_Tax	0.041	-0.311	-0.150	0.176	0.156	-0.082	-0.095	0.177	1.000

*The * denotes correlation coefficients with values greater than or equal to 5% significance level.*

Among the cultural variables, Pwr_Dst was negatively associated with individualism (Indvdlsm) and long-term orientation (LngTrm_Ornt), implying that countries rank low on individualism exhibit less tolerance for uncertainty, and hierarchies. Among the institutional variables, Invstr_Prtct, Qlty_Lglty, and EqtyMrkt_Dvlp are all positively correlated with one another, but negatively correlated with Book_Tax, implying that countries with strong investor protection tend to have a better quality of legal enforcement, and have fairly well-developed domestic equity markets, but low alignment between accounting and tax rules.

Pwr_Dst, and Uncrtnty_Avd were both negatively correlated with Invstr_Prtct, Qlty_Lglty, and EqtyMrkt_Dvlp, and positively correlated with Book_Tax. Indvdlsm was also positively correlated with Invstr_Prtct, Qlty_Lglty, and EqtyMrkt_Dvlp, and negatively correlated with Book_Tax, implying that highly individualistic countries tend to have more rules to protect the rights of their investors, better enforcement systems, and well-developed equity markets, as well as low alignment between accounting and tax rules.

5.6.2 Results- Model (2a) and Model (2b)

The second column of Table 5.8 presents the estimation results for Model (2a) in which nine cultural and institutional variables (Power Distance, Individualism, Masculinity, Uncertainty Avoidance, Long-term Orientation, Legal System, Investor Protection, Quality of Legality, and Equity Market Development) are included, together with a country's legal system. The third column of Table 5.8 presents the estimation results for Model (2b) when the extent of book-tax conformity (Book_Tax) is included in the specification.

The results show that all the economic and managerial reporting incentives variables that have been shown to be significantly associated with the amounts of goodwill-impairment losses retain their significance levels from the baseline specifications, and their values are very similar to the first column of the table.

Turning to the cultural and institutional variables, five of eight variables have a significant association with goodwill-impairments. Power distance (Pwr_Dst) was, as predicted, negatively associated with goodwill-impairments, indicating that managers in large-power-distance countries appear to have used their power to avoid impairment losses. Individualism was also statistically significant, with the predicted positive sign, suggesting that managers

in highly collectivist countries tend to report lower impairment losses to protect the welfare of the investors.

Consistent with the finding of Swanson et al. (2007), uncertainty avoidance (Uncrtnty_Avd) was positively related to the amount of impairment-losses recognised on goodwill. This finding, however, is contrary to the prediction that managers in uncertainty avoiding countries are less (rather than more) inclined to impair their goodwill, in their attempt to avoid uncertainties associated with potentially negative effects that are likely to arise following the reporting of goodwill-impairment losses (e.g. violating debt covenants or falling short of analysts' earnings forecasts). One possible explanation for this finding is that managers from highly uncertainty-avoiding societies appear to have impaired greater amounts of their goodwill, in their attempts to reduce the year-to-year variability of reported earnings. Consistent with this explanation, Doupnik (2008) found that "earnings smoothing…is more prevalent in countries that are high in uncertainty avoidance" (p. 331). Another possible explanation is that managers from uncertainty avoiding societies may have recorded higher amounts of goodwill-impairment losses, in their attempt to avoid the worst possible outcomes (e.g. avoid a large tax payment).

The Quality of legality (Qlty_Lglty), and the development of equity markets (EqtyMrkt_Dvlp) were both positively associated with impaired goodwill, implying that goodwill-impairments would be greater, in magnitude, the higher the institutional quality in a country. This finding was consistent with the suggestion of AbuGhazaleh et al. (2011) that "firms with stronger governance mechanisms are more likely to report higher amounts of non-opportunistic goodwill-impairment losses" (p. 177). Ball et al. (2000) and Bushman and Piotroski (2006) also provide evidence implying that the incentives for more

conservative/aggressive financial reporting were often found to have been instigated by the quality/effectiveness of a country's legal institutions.

In particular, "firms in countries with a high rule of law score take more goodwill-impairments than firms in countries with a lower score" (Van de Poel et al., 2009, pp. 31). In such countries, regulatory bodies are "focusing attention on…rational for, why goodwill is not impaired" (Forsythe, 2013, p. 3). That is, non-impairing firms were under more scrutiny than their impairing counterparts. These findings alone would not have been sufficiently persuasive to conclude that the reporting of impairment losses corresponds to the decline in the economic value of goodwill, as reflected in accounting measures of performance. As Van de Poel et al. (2009) explain, the presence of effective governance mechanisms does not necessarily lead to a greater recognition of goodwill-impairment, because they have potentially two opposite effects, on the one hand, they force companies to record impairment losses when they fail to report any losses on goodwill, and, on the other hand, they prevent them from accelerating impairments when it is not appropriate.

In support of this opinion, Glaum et al. (2015) argued that the level of enforcement in a country can affect the reporting of goodwill-impairment losses in either of three ways. In the first way, firms in countries with strong enforcement will be enforced to take more impairment losses compared to their counterparts in weak enforcement countries (positive association). In the second way, firms in strong enforcement countries are more efficiently managed, and thereby are less likely to engage in wasteful mergers and acquisitions transactions. This, in turn, results in lower impairment losses (negative association). In the third way, due to the subjective nature of goodwill-impairments, the degree of enforcement in a country will not be relevant (no association).

5.6.3 Robustness Tests

To strengthen the robustness checks, another sensitivity analysis was carried out considering institutional variables only, along with all of the specified predictor variables in the baseline specification. The analysis was repeated using cultural dimensions only, along with all of the specified predictor variables in the baseline model.

Table 5.10 The Impact of Institutional vs. Cultural Variables on Goodwill-Impairments

Variable	Institutional	Cultural
GW	0.114***	0.109***
	(12.127)	(11.887)
M/B	-0.007***	-0.007***
	(-6.795)	(-6.869)
ΔMrktCap	-0.003	-0.002
	(-1.460)	(-1.289)
ΔOCF	-0.001	-0.001
	(-0.466)	(-0.728)
ΔSALES	-0.020**	-0.019**
	(-2.012)	(-2.018)
ΔROA	-0.001***	-0.001***
	(-2.880)	(-2.893)
Earn_Volt	-0.000	-0.000
	(-0.113)	(-0.561)
Price_Volt	0.001***	0.001***
	(6.857)	(6.852)
ΔIndMd_ROA	0.000	-0.000
	(0.048)	(-0.241)
ΔGDP	0.000	0.001**
	(0.796)	(2.021)
OWN	0.000**	0.000
	(2.126)	(1.486)
ΔDebt_Ratio	0.001***	0.001***
	(3.385)	(3.113)
BATH	0.057	0.060
	(1.248)	(1.301)
SMOOTH	0.003***	0.003***
	(3.068)	(3.081)
SIZE	0.008***	0.008***
	(10.809)	(10.565)
BIG4	-0.006*	-0.007**
	(-1.906)	(-2.213)
Crisis Period	0.009***	0.009***
	(3.076)	(3.131)
Basic Materials	0.008	0.014*
	(0.979)	(1.777)
Industrials	0.019***	0.023***
	(2.659)	(3.257)

Consumer Goods	0.018**	0.019***
	(2.354)	(2.607)
Health Care	0.005	0.009
	(0.547)	(1.032)
Consumer Services	0.021***	0.026***
	(2.833)	(3.468)
Telecommunications	0.038***	0.038***
	(3.634)	(3.768)
Utilities	0.028***	0.028***
	(3.252)	(3.358)
Technology	0.019**	0.023***
	(2.336)	(2.911)
Common Law	0.008	
	(1.555)	
Invstr_Prtct	-0.004***	
	(-3.415)	
Qlty_Lglty	0.006***	
	(3.959)	
EqtyMrkt_Dvlp	0.000***	
	(3.737)	
Book_Tax	-0.003	
	(-0.413)	
Pwr_Dst		-0.000*
		(-1.926)
Indvdlsm		0.000
		(0.574)
Msclnty		-0.000
		(-0.942)
Uncrtnty_Avd		-0.000
		(-0.321)
LngTrm_Ornt		-0.000***
		(-3.108)
Constant	-0.266***	-0.185***
	(-10.625)	(-10.048)
N	14,248	14,898
F-statistics	11.20	10.97
Prob > F	0.000	0.000

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The results, reported in the first and second columns of Table 5.10, revealed that all of the institutional variables (except legal system and book-tax conformity) were highly significant (p-value < 0.001). The results also showed that apart from power distance and long-term orientation, none of the cultural dimensions were significant.

The observed results, however, are hard to explain, since the cultural effects cannot be isolated from the institutional effects on the process of making goodwill-impairment decisions (impair or not to impair, and how much to impair). Therefore, it would be misleading to analyse cross-country differences in goodwill-impairments solely from the culture side (without considering the role of institutions as modifiers of cultural predilections), especially because firms' goodwill-impairment decisions are a joint product of culture and institutions (which may or may not be culturally-driven). In the context of earnings management, Han et al. (2010) state that "institutions can serve to modify or reinforce the effects of base culture" (p. 127). However, it is a priori unclear whether the institutional structure supersedes, restrains, or reinforces cultural perspectives.

In an additional robustness test, I replaced county-specific dummy variables with indicator variables representing country's legal origin (English, French, German, and Scandinavian), along with all of the variables in the Tobit model, to determine whether these variables contribute anything additional to the analysis. The estimation results, reported in the first column of Table 16.2 (Appendix 7), shed light on the heterogeneity of goodwill-impairment patterns across countries of different legal origins. In particular, firms in countries with English and Scandinavian legal origins had the highest level of goodwill-impairments, followed by their German and French counterparts.

The results (reported in the second column of Table 16.2 in Appendix 7) remained largely unchanged, when I replaced legal origin dummies by a dummy variable that takes on the value 1 if the country's legal system is of common, and 0 otherwise, implying that firms in common-law countries, on average, report higher goodwill–impairment losses, compared to their counterparts originating from civil-law countries.

Several robustness tests were also performed to evaluate the incremental impact of each institutional/cultural variable separately on the goodwill-impairment amounts. Results, reported in columns (3) to (6) of Table 16.2 in Appendix 7, did not point towards any significant difference. The direction and average effect of all independent variables were the same as in the baseline model. Results also revealed that institutions can directly affect the amounts of impairment losses recognised on goodwill. As predicted by the null hypotheses (H13, H14, and H15), the regression coefficients on Invstr_Prtct (β=0.002, t-statistics=3.016, p-value <0.01) Qlty_Lglty (β=0.010, t-statistics=8.664, p-value <0.01), and EqtyMrkt_Dvlp (β=0.000, t-statistics=8.054, p-value <0.01) were significant and positive. In contrast, the coefficient for Book_Tax (β=-0.020, t-statistics=-3.381, p-value <0.01), as predicted by the null hypothesis (H11), was significant and negative. The replication analysis thus confirms the original results indicating that firms in countries characterised with strong investor protection, better quality of legal enforcement, well-developed stock markets, and low book-tax alignment tend to impair greater amounts of their goodwill balances.

In addition, I also studied the effect of the strength of national auditing and financial reporting enforcement, as developed by Brown et al. (2014), on the amounts of impairment losses recognised on goodwill. The analysis, surprisingly, revealed no significant relationship between Brown et al.'s measure of enforcement and goodwill-impairment amounts, raising serious concerns over the reliability and validity of the index values in their own studies. The regression results, as reported in all the columns in Table 16.3 (Appendix 7), revealed that the coefficients associated with all cultural variables have the predicted signs and are statistically significant for Pwr_Dst (β=-0.000, t-statistics=-4.847, p-value <0.01), Indvdlsm (β=0.000, t-statistics=2.381, p-value <0.05), Uncrtnty_Avd (β=-0.000, t-statistics=-4.937, p-value <0.01), and LngTrm_Ornt (β=-0.000, t-statistics=-3.838, p-value

<0.01). Note, however, that the coefficient associated with Msclnty is not statistically significant at an acceptable level.

Last, I ran separate regressions for each country (apart from Poland), because the effects of economic/reporting incentives on goodwill-impairment amounts are likely to vary across countries. The results, which are reported in the all columns of Table 16.4 in Appendix 7, reveal that unlike all other firms in the study's sample, Australian and British firms-in general- tend to report impairment losses that are weakly associated with big bath/earnings smooth reporting incentives and, at the same time, strongly associated with economic factors. The results are in line with prediction and largely confirm the original findings indicating that differences exist in goodwill-impairment practices across countries. In particular, the first column (headed AUS) in Table 16.4 shows that the GW (β=0.234, t-statistics=7.503), and Price_Volt (β=0.002, t-statistics=3.067) are significantly positive as predicted. M/B (β=-0.028, t-statistics=-5.591), ΔOCF (β=-0.065, t-statistics=-1.741), ΔSALES (β=-0.039, t-statistics=-2.422), and ΔROA (β=-0.001, t-statistics=-3.330) are significantly negative as predicted. For the reporting incentive proxies, only SMOOTH (β=0.010, t-statistics=2.117) is significant in a statistical sense, but not in a practical sense[73]. The estimated coefficient of BATH (β=007, t-statistics=-0.373) is in the predicted direction, but statistically insignificant.

[73] Finding statistical significance without practical significance is likely to occur with large sample sizes or small variances (Schlotzhauer, 2007, pp.169).

5.7 Results-Interaction Model

Although very few studies have actually investigated the relationship between institutions and the patterns of goodwill-impairments, the nature of this relationship has not been thoroughly examined. Researchers normally analyse the direct effects of institutional factor(s) on goodwill-impairment decisions, and have therefore paid less attention to indirect effects. In the next step of the analysis, additional terms representing the interactions between company- and country-specific variables were considered to determine whether country-specific variables moderate the influence of economic/reporting incentives. I retain all predictor variables specified in the initial model and add cross-level interaction terms (note: only significant interaction terms are shown).

As reported in Table 5.8, most of the previously significant variables lose their statistical significance, suggesting that their main/direct effects on the amount of goodwill-impairment losses are overwhelmed by the interaction terms. However, the coefficient associated with goodwill (GW) remains highly significant (at the 0.001 level) and maintains its sign, but its magnitude is almost five times larger in absolute value, which means (all other things being equal) a one percent increase in goodwill will lead to a less than one percent (0.53%) increase in impairment losses. In other words, a million-dollar increase in goodwill is associated, on average, with a five hundred twenty-five thousand dollars ($525076.05) increase in the amounts of impairment losses.

The coefficients on SIZE and Crisis Period are still very similar to the ones estimated within the previous models. It is noteworthy that the coefficient on ΔIndMD_ROA becomes positive and significant after the inclusion of the various interaction effects, indicating that companies in high growth industries can afford to impair greater amounts of their goodwill.

That is, firms in well-performing industries found it relatively cheaper to take more impairments, because have less a pronounced negative effect.

5.7.1.1 Continuous X Categorical Interaction(s)

The interaction variables (BIG4#ΔSALES, BIG4#ΔROA and BIG4#ΔGDP) capture the contribution of BIG4 auditors to the impact of sales and return on assets on the amount of impairment loss. Significant negative estimates of the interaction parameters suggest that the relationships between goodwill impairment losses and ΔSALES, ΔROA, and ΔGDP depend on the quality of auditing as proxied by BIG4 auditors. This is consistent with the findings of Stokes and Webster (2010), who also show that the association between goodwill-impairments and certain economic factors (ΔSALES, and ΔROA) is stronger in the presence of high audit quality. This finding indicates that the presence of BIG4 auditors had the potential to strengthen management incentives to improve the quality of impairment losses, and thereby increasing the correlation between goodwill-impairments and economic performance measures. However, inconsistent with predictions, the estimated coefficients on the interaction terms (BIG4#BATH and BIG4#SMOOTH) remain positive and significant, suggesting that being audited by one of the BIG4 audit firms alone was not enough to effectively constrain the incentives of managers to take a big bath (or smooth their income).

Once again, the test results were highly sensitive to the effect of a country's legal system. As shown in Table 5.8, the coefficient on the interaction terms (LG_SYS#GW, LG_SYS#ΔOCF, LG_SYS#Earn_Volt, and LG_SYS#Price_Volt) had the expected sign and were statistically significant, suggesting that firms operating in common-law countries have impairment-losses strongly associated with their goodwill and change in OCF, while the effect of legal system on the relationship between IMP and ΔROA/ΔDebt_Ratio which,

although significant, had the opposite expected sign. Most importantly, the coefficient of the interaction term (LG_SYS#BATH) was negative and highly significant, suggesting that firms in common law countries are less likely to accelerate goodwill impairment losses. This finding appears similar to the findings of Riedl (2004) who reported a significant negative interaction between BATH and CEOCHR (an indicator variable equal to 1 if the CEO is also the chairman of the board, and 0 otherwise), suggesting that big bath behaviour is exacerbated when governance is weaker.

5.7.1.2 Continuous X Continuous Interaction(s)

To help interpret the cross-level or micro-macro interactions among continuous predictors, Cohen et al. (2003) identified three theoretically meaningful interaction patterns between two predictors; each pattern depends on the signs of the first-order and interactive effects.

(i) When both the first-order and interactive effects are of the same sign (i.e., all three signs are positive or negative), the interaction is synergistic or enhancing, in which the two predictors (X and Z) affect the criterion (Y) in the same direction, and together they produce a stronger than additive effect on the outcome. For example, if we evaluate how ability (X) and motivation (Z) impact achievement in college (Y). When ability and motivation interact synergistically, graduate students with both high ability and high motivation perform better in college than would be expected from the simple sum of the separate effects of their ability and motivation. That is, graduate students that have high ability and are highly motivated become superstars. In this case, "the whole is greater than the sum of the parts" (Cohen et al., 2003, p. 285).

(ii) When the two predictors have regression coefficients of opposite sign (i.e., one positive and one negative), the pattern of interaction is buffering, in which one

predictor weakens the effect of the other predictor; that is, as the impact of one predictor increases in value, the impact of the other predictor is diminished. For instance, students' levels of academic achievement as measured by their grades is positively associated the amount of time spent studying, but negatively associated with the hours spent daily watching TV. A negative interaction effect would indicate that the beneficial effect of time spent on homework can be reduced or buffered by the average daily time spent watching TV.

(iii) When the two predictors go in the same direction (both either positive or negative), and the interaction is of opposite sign, the pattern of interaction is interference or antagonistic. For example, ability and motivation can exhibit compensatory or opposing effects on graduate school achievement. In contrast, for students with very high ability, achievement is less dependent on motivation, whereas, for students with high level of motivation, the mere ability has less impact. In this case, "the whole is less than the sum of the parts" (Cohen et al., 2003, p. 286).

Turning to the estimation results of the interaction effects between individual and contextual characteristics; the estimation results show that there are compensatory effects between goodwill (GW) and investor protection (Invstr_Prtct) on the amount of impairment losses recognised on goodwill, implying a partially either-or pattern of influence of the two predictors (Invstr_Prtct#GW) on impairment losses. That is, the importance of goodwill asset is lessened by the optimal level of investor protection. The results show, perhaps surprisingly, that the negative effect of ΔOCF on the impairment of goodwill has been buffered or reduced by the level of investor protection. The estimated coefficient on the interaction term (Invstr_Prtct #Size) is positive and significant, revealing that larger firms

tend to operate in countries with better investor protection, and at the same time, take more impairments losses.

Moreover, the results revealed the coefficients on the interactions of quality of legality (Qlty_Lglty) with M/B ratios, ΔOCF, and ΔIndMD_ROA have minus signs and are also statistically significant at conventional levels, suggesting that in countries that have better quality of law-enforcement, the impairment charges of goodwill are, on average, more closely related to the firm's underlying economic performance. Results also show that the amounts of impairment losses were particularly highly associated with ΔROA in the presence of a relatively highly developed equity markets. In contrast, the proxy for big bath reporting (BATH) was associated with a small, but statistically significant, increase in the average amount of goodwill-impairments, implying that firms in countries with large equity markets tend to report large impairment losses. Those losses, however, are not necessarily discretionary in nature (i.e., big bath). Moreover, the results revealed that high book-tax alignment weakened or buffered the effects of ΔOCF and ΔSALES on the amounts of goodwill-impairment losses.

One might think that the findings are in some sense contradictory. A possible explanation why some of the two-way interactions have not shown the expected sign (or have the expected sign but no statistical significance) is that I do not include three-, four-, five-, and six-factor interactions that capture the complex inter-relationship among institutions with the impairment of goodwill. The inclusion of these interaction terms is very problematic to theoretically specify and will nearly always produce high levels of multicollinearity. In response to these concerns, an alternative approach has been proposed by many accounting

scholars (e.g. Leuz et al., 2003), which involves grouping countries according to their institutional characteristics.

5.8 Additional analysis: Abnormal Goodwill Impairment Losses

In the presence of internal and/or external control mechanism, firm managers are expected to record lower abnormal goodwill-impairment amounts. Following Lapointe-Antunes et al. (2008), I directly examined the association between a set of institutional factors, and abnormal goodwill-impairment losses, measured as the difference between the reported goodwill-impairment loss and the normal goodwill-impairment loss. To do so, I first predicted normal impairment losses of goodwill using OLS regression[74] (with robust), by regressing reported goodwill-impairment losses on the actual impairment proxies from Model (1) for the full sample (i.e., impairing and non-impairing firms) using the following equation:

$$IMP_{it} = \alpha_0 + \beta_1 GW_{it} + \beta_2 M/B_{it} + \beta_3 \Delta MrktCap_{it} + \beta_4 \Delta OCF_{it} + \beta_5 \Delta SALES_{it} + \beta_6 \Delta ROA_{it} + \beta_7 Earn\_Volt_i + \beta_8 Price\_Volt_i + \beta_9 \Delta IndMD\_ROA_{it} + B_{10} \Delta GDP_{it} + \beta_{11} OWN_i + \beta_{12} Debt\_Ratio_{it} + \beta_{13} SIZE_{it} \quad , \qquad (5.6)$$

The resultant normal impairment losses are equal to zero when their predicted values are negative to mirror the censored distribution of the reported goodwill-impairment losses. The difference between the adjusted predicted losses and the reported losses represent the abnormal goodwill-impairment losses. The abnormal losses are positive when the reported losses are higher than the adjusted predicted losses (i.e., overstated); but negative when the reported losses are lower than the adjusted predicted losses (i.e., understated). Finally, the

[74] Following Lapointe-Antunes et al. (2008), OLS regression was used to predict the normal losses of impairments, instead of Tobit regression model, because the residuals for censored observations are not well-defined.

abnormal losses are equal to zero when the reported losses are equal to the predicted losses (i.e., neither overstated nor understated).

Goodwill-impairment losses should be neither overstated nor understated, if the control mechanisms, which create strong disincentives for managers, are effective in constraining their opportunistic behaviour when they make decisions related to the impairment of goodwill. To assess whether this is the case, I regressed the computed abnormal losses ($AIMP_{it}$) on all of the institutional variables for firms with positive and negative abnormal goodwill-impairment losses separately using the following equation. The type of auditor (BIG4 vs non-BIG4) was also included because it is considered in the literature (e.g. Van de Poel et al., 2009; Stokes and Webster, 2010) as a constraint for managerial opportunism.

$$AIMP_{it} = \alpha_0 + \beta_1 BIG4_i + \beta_2 LG\_Sys_i + \beta_3 Invstr\_Prtct_i + \beta_4 Qlty\_Lglty_i + \beta_5 EqtyMrkt\_Dvlp_i + \beta_6 Book\_Tax_i + \varepsilon_{it} , \quad (5.7)$$

I expect the coefficients on these variables to be negative (positive) for firms with positive (negative) abnormal goodwill-impairment losses. This model can jointly test whether (i) those control mechanisms imposed upon firms can constitute effective constraints of managerial opportunism, and (ii) provide incentives for an efficient use of impairment discretion, which should be translated into more tempered goodwill-impairment losses.

Table 5.11 reports the estimation results of the impact that corporate governance may have on the determinants of abnormal goodwill-impairment losses. The first column of Table 5.11 presents the results of the regression for companies with positive abnormal goodwill-impairment losses. Consistent with the prediction of this study, the coefficients on BIG4, Invstr_Prtct, and EqtyMrkt_Dvlp are negative and significant. The second column of Table 5.11 presents the results of the regression for companies with negative abnormal goodwill-

impairment losses. The coefficients on BIG4, and EqtyMrkt_Dvlp are positive and significant as predicted. Taken together, the findings suggest these factors act as constraints on the ability of managers to behave opportunistically and record abnormal goodwill-impairment losses.

Table 5.11 The Impact of Governance on Abnormal Goodwill-Impairment Losses

Variables	Positive	Negative
BIG4	-0.018***	0.002***
	(-4.295)	(14.328)
LG_SYS	0.075***	-0.003***
	(9.667)	(-9.881)
Invstr_Prtct	-0.012***	-0.000
	(-6.571)	(-0.751)
Qlty_Lglty	0.012***	-0.001***
	(4.704)	(-9.409)
EqtyMrkt_Dvlp	-0.000**	0.000***
	(-2.155)	(5.816)
Book_Tax	0.011	-0.000
	(1.047)	(-0.724)
Constant	-0.003	0.001
	(-0.116)	(1.145)
N	1,585	9,560
F-statistics	30.98	121.32
Prob > F	0.000	0.000
Adjusted R-squared	0.102	0.070
Root MSE	.0681	.0063

t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The coefficients for LG_SYS and Qlty_Lglty were significant but of the opposite sign. More specifically, the highly significant and positive coefficients for LG_SYS (0.075) and Qlty_Lglty (0.012) show that firms located in common-law countries or countries with better enforcement quality appear to have recorded higher-than-necessary impairment losses, compared to their counterparts in code-law countries or countries with inferior quality of enforcement. This is generally consistent with Glaum et al. (2015) who argue that firms in countries with strong enforcement systems will be forced to impair their goodwill more often compared to their counterparts in countries with weak enforcement systems. The negative coefficients for LG_SYS (-0.003) and Qlty_Lglty (-0.009) were statistically significant, but

not significant in a practical sense. Taken together, the findings suggest that firms in a more litigious environment (common-law or high-enforcement countries) will engage in more goodwill-impairment activities, because those firms will find it less costly to impair their goodwill rather than not to impair or impair less than they should.

5.9 Discussion and Summary

The empirical results reveal that the goodwill impairment losses are associated with economic factors, as well as managerial reporting incentives. The results also reveal that cultural and institutional variables are partially responsible for the effects of economic and managerial reporting incentives on goodwill-impairment amounts. In particular, impairing firms have higher amounts of goodwill, and a greater fluctuation of the share price. Profit-making firms are, however, found to report lower amounts of impairment losses. Consistent with managers' preference for achieving smooth and consistent patterns of earnings, firms experiencing unexpectedly high earnings tend to impair greater amounts of their goodwill.

Empirical results also reveal that goodwill-impairment losses increase with the firm's level of debt. However, this finding should be interpreted with caution, as debt-to-assets and debt-to-equity ratios may not be appropriate proxies for firms' closeness to their potential debt covenant violation (Riedl, 2004; Georgiou, 2005). Therefore, one needs to consider other factors such as the existence of public debt.

Furthermore, the results indicate that ownership structure (OWN) has no statistically significant impact on the reporting of goodwill-impairment losses (IMP). However, failing to detect a statistically significant relationship between OWN and IMP does not mean there is no impact. This could be due to either attrition (i.e., firm-year observations with missing data being excluded from the analysis) or, most likely, to large variations in the patterns of

ownership structures across firms. This study, however, found evidence of a positive relationship between OWN and goodwill-impairment losses. This is fully consistent with Lapointe-Antunes (2005), who argues that widely-held firms tend to report relatively lower impairment losses in their attempt to avoid scrutiny and intervention by outside investors.

Moreover, this chapter investigated the direct and indirect impact of country-specific factors (cultural and institutional) on the reporting of goodwill-impairment amounts. The empirical results show that firms from common-law countries, on average, report higher amounts of goodwill–impairment losses, compared to their counterparts from code-law countries. Results also reveal that national culture in the form of power distance, individualism, and uncertainty avoidance, as well institutional variables also impact on the reporting of goodwill-impairment amounts.

Although there is no evidence to support a direct association between being audited by one of the BIG4 auditors and goodwill-impairment amounts, the type of auditor moderates some firm-specific variables. Most importantly, the results show that the type of legal system not only directly influences the reporting of goodwill-impairment amounts, but also moderates some firm-specific variables. Specifically, firms operating in common-law countries have apparently recorded goodwill-impairment losses that are, on the one hand, strongly associated with economic impairment proxies, and on the other, weakly associated with reporting incentive proxies.

To provide further assurance, an additional analysis was then conducted to examine the direct impact of institutions, as well as the type of auditor on the determination and reporting of abnormal goodwill-impairment losses. Together, the findings reveal that BIG4 auditor,

investor protection, and equity markets development were more effective in constraining managers' ability to either overstate or understate the amounts of goodwill-impairment losses reported (i.e., record abnormal goodwill-impairment losses), and to ensure that no impairment loss has been made, unless the firm has suffered from impairment in the economic value of its goodwill.

6 Chapter 6: Goodwill-impairment Patterns across Country Clusters

6.1 Introduction

This chapter presents additional analyses to examine whether the results of regression models reported in Chapter (5) differ across the two institutional clusters and the two cultural clusters of countries with regard to the relationship between goodwill-impairment amounts and economic/reporting incentives. Section 6.2 discusses the results of k-means cluster analysis using three and four institutional variables, respectively. Section 6.3 presents descriptive statistics across institutional and cultural clusters of countries. Sections 6.4 and 6.5 present the results of a separate regression analysis run for each cluster.

6.2 Cluster Membership

Table 6.1 shows the cluster membership for the sample countries using a k-mean cluster analysis (k=2) using SPSS (22). The analysis uses the cultural and institutional variables from Table 5.4 (Chapter 5) with respect to investor protection, quality of legality and equity market development for which the country data are available for all countries sample. Following Leuz (2010), the indicator for the country's legal system was excluded, "as binary variables can be problematic in cluster analysis" (p. 244), and is more likely to bias the cluster membership, by drawing institutional clusters that are more driven by the type of legal system, rather than other institutions.

Panel (A) of Table 6.1 reports the results of the cluster analysis (Cluster1 versus Cluster2). It can be seen that Cluster1 is composed primarily of countries (Australia, South Africa, Sweden, and the UK) with relatively well-developed domestic equity markets. Then, cluster analysis was performed again using four institutional factors, namely: investor protection, quality of legality, and equity market development, along with book-tax conformity (BT).

Poland was automatically dropped from the analysis due to unavailability of data on book-tax conformity variable.

Table 6.1 Cluster Membership Using Institutional/Cultural Variables

Institutional Clusters				Cultural Clusters	
Panel (A)		Panel (B)			
Cluster1	Cluster2	Cluster1_BT	Cluster2_BT	Cluster1	Cluster2
Australia	Austria	Australia	Austria	Australia	Belgium
South Africa	Belgium	South Africa	Belgium	Austria	France
Sweden	Denmark	Sweden	Denmark	Denmark	Greece
United Kingdom	Finland	United Kingdom	Finland	Finland	Poland
	France		France	Germany	Portugal
	Germany		Germany	Italy	Spain
	Greece		Greece	Netherlands	
	Italy		Italy	Norway	
	Netherlands		Netherlands	South Africa	
	Norway		Norway	Sweden	
	Poland		Portugal	United Kingdom	
	Portugal		Spain		
	Spain				

Note: this table reports the cluster membership for the sample countries using institutional/cultural variables.

As can be seen in Panel (B) of Table 6.1, two clusters of countries (Cluster1_BT versus Cluster2_BT) are formed, which are exactly the same except for Poland. Following Doupnik (2008), in order drive cultural clusters, I included the country scores for Hofstede's five cultural dimensions (uncertainty avoidance, power distance, individualism, masculinity and long-term orientation) and the result are reported in Table 6.1 under cultural clusters.

A full list of countries included in the cluster analyses is available in Appendix 4. The sample countries are highlighted in Bold. The right-hand column of the table in Appendix (5) reports the one-way ANOVA and the p-values, indicating that there are significant differences across the institutional clusters on investor protection, quality of legality, and development of equity markets. That is, each institutional cluster differs significantly from the other cluster on each of these institutional variables, except for Blaylock et al. (2012)'s index of book-tax conformity. In terms of cultural clusters, the table also shows that there are statistically significant differences between these two clusters on only three out of five

cultural dimensions namely, power distance, individualism, and uncertainty avoidance. That is, cultural clusters do not differ significantly from one another on masculinity and long-term orientation.

In general, groupings of countries (with or without book-tax) were consistent with strong equity-outsider and weak equity-outsider distinctions used in prior research (e.g. Nobes 2011a). According to Nobes and Parker (2010), "differentiation between credit/insiders and equity/outsiders is the key cause of international differences in financial reporting" (p. 36). The common factor between all countries in Cluster1 (or Cluster1_BT) is the strength of equity markets. As indicated in Panel (A) and (B), all countries in Cluster1 (or Cluster1_BT) have relatively more developed equity markets (i.e., strong equity markets), while Cluster2 (or Cluster2_BT) includes all the remaining countries in the sample, with relatively less developed equity markets (i.e., weaker equity markets). For example, equity market development has a score of 233 for South Africa, 144 for UK, 141 for Australia, and 127 for Sweden. While France, Germany, and Italy scored 96, 61, and 43 on equity market development (see Appendix 3).

With regard to cultural clusters, countries in cluster1 have high individualism (e.g. UK with score of 89, Australia with a score of 90, whilst countries in cluster2 have low scores on individualism (e.g. Portugal has 27, and Greece 35). Cluster1 also includes countries with relatively low uncertainty avoidance and power distance (e.g. UK scores 35 on both power distance and uncertainty avoidance) while in Cluster2, countries have rather high power distance and high uncertainty avoidance (e.g. France with scores of 86 and 68 on power distance and uncertainty avoidance respectively). Note that scores for power distance,

individualism, uncertainty avoidance, masculinity, and long-term orientation are available in Table 5.4 (Chapter 5).

6.3 Descriptive Statistics across Institutional/Cultural Clusters

Table 6.2 and 6.3 present the basic descriptive statistics for the two clusters identified by the cluster analysis. Table 6.2 reports the results of descriptive statistics for economic/reporting incentives for the institutional clusters that include all the sample firms.

Table 6.2 Descriptive Statistics across Institutional Clusters (1)

	Cluster1			**Clsuter2**			
Variable	**Obs**	**Mean**	**Std. Dev.**	**Obs**	**Mean**	**Std. Dev.**	**Diff. Means**
IMP	7,547	0.008	0.041	9,595	0.003	0.020	0.000
GW	7,384	0.176	0.189	9,093	0.136	0.142	0.000
M/B	7,207	3.280	12.087	9,267	2.057	5.367	0.000
ΔMrktCap	7,355	0.313	2.130	9,465	0.134	1.331	0.000
ΔOCF	7,486	0.012	1.674	9,648	0.000	0.791	0.696
ΔSALES	7,535	0.182	15.132	9,674	0.135	4.857	0.660
ΔROA	7,414	590.144	55101.310	9,468	-0.672	21.107	0.293
Earn_Volt	7,574	3.356	42.291	9,681	30.364	846.956	0.001
Price_Volt	7,497	36.765	12.720	9,548	32.021	10.020	0.000
ΔIndMD_ROA	7,574	-0.371	1.197	9,688	-0.333	1.094	0.017
ΔGDP	7,574	1.781	2.243	9,688	0.397	2.924	0.000
OWN	7,455	35.997	21.767	9,562	49.505	22.587	0.000
ΔDebt_Ratio	7,548	96.195	29429.860	9,638	0.512	15.168	0.269
BATH	7,574	-0.410	18.156	9,688	-0.047	1.993	0.037
SMOOTH	7,531	0.237	3.866	9,503	0.036	0.342	0.000
SIZE	7,561	5.210	2.541	9,677	6.255	2.121	0.000

Note: This table reports the summary statistics for the variables used in the analysis, by cluster.

Table 6.3 reports the result of the descriptive statistics for economic/reporting incentives for the institutional clusters that exclude Polish firms.

Table 6.3 Descriptive Statistics across Institutional Clusters (2)

	Cluster1_BT			Cluster2_BT			
Variable	**Obs**	**Mean**	**Std. Dev.**	**Obs**	**Mean**	**Std. Dev.**	**Diff. Means**
IMP	7,547	0.008	0.041	8,758	0.003	0.020	0.000
GW	7,384	0.176	0.189	8,377	0.140	0.143	0.000
M/B	7,207	3.280	12.087	8,470	2.092	5.584	0.000
ΔMrktCap	7,355	0.313	2.130	8,666	0.124	1.336	0.000
ΔOCF	7,486	0.012	1.674	8,808	0.008	0.216	0.764
ΔSALES	7,535	0.182	15.132	8,834	0.072	0.750	0.329
ΔROA	7,414	590.144	55101.310	8,638	-0.683	20.068	0.314
Earn_Volt	7,574	3.356	42.291	8,841	33.063	886.232	0.001
Price_Volt	7,497	36.765	12.720	8,736	31.312	9.802	0.000
ΔIndMD_ROA	7,574	-0.371	1.197	8,848	-0.330	1.088	0.012
ΔGDP	7,574	1.781	2.243	8,848	0.087	2.819	0.000
OWN	7,455	35.997	21.767	8,736	49.366	22.777	0.000
ΔDebt_Ratio	7,548	96.195	29429.860	8,803	0.521	15.385	0.290
BATH	7,574	-0.410	18.156	8,848	-0.026	0.158	0.034
SMOOTH	7,531	0.237	3.866	8,668	0.033	0.345	0.000
SIZE	7,561	5.210	2.541	8,837	6.381	2.108	0.000

Note: This table reports the summary statistics for the variables used in the analysis, by cluster.

The tables show that there are statistically significant differences between the means of two groups of clusters with respect to almost all variables. In particular, firms in Cluster1 (and Cluster1_BT) have, on average, significantly higher impairment losses, as well as higher amounts of goodwill, when compared to their counterparts in Cluster2 (and Cluster2_BT). Firms in Cluster1 (and Cluster1_BT) also display, on average, higher ΔMrktCap, as well as a higher percentage change in OCF, SALES, and ROA relative to firms in Cluster2. This might be interpreted as an indication that firms in the second cluster experience worse financial performance relative to their counterparts in the first cluster, but at the same time,

report lower levels of impairment losses. The percentage change in OCF, SALES, ROA, IndMD_ROA, and Debt_Ratio did not show any statistically significant difference of their mean values across the two sets of clusters. Earn_Volt, ΔIndMd_ROA, OWN are greater, and Price_Volt and ΔGDP are lower for firms in Cluster2 (and Cluster2_BT) relative to their counterparts in Cluster1 (and Cluster1_BT).

Table 6.4 reports the result of the descriptive statistics for economic/reporting incentives for the cultural clusters.

Table 6.4 Descriptive Statistics across Cultural Clusters

	Cultural Cluster1			**Cultural Cluster2**			
Variable	**Obs**	**Mean**	**Std. Dev.**	**Obs**	**Mean**	**Std. Dev.**	**Diff. Means**
IMP	12,537	0.006	0.035	4,605	0.002	0.015	0.000
GW	12,156	0.160	0.173	4,321	0.137	0.144	0.000
M/B	12,053	2.853	10.176	4,421	1.882	4.113	0.000
ΔMrktCap	12,257	0.250	1.957	4,563	0.113	0.848	0.000
ΔOCF	12,478	0.012	1.308	4,656	-0.013	1.103	0.250
ΔSALES	12,537	0.143	11.746	4,672	0.189	6.922	0.801
ΔROA	12,299	355.509	42781.070	4,583	-0.751	15.869	0.573
Earn_Volt	12,572	23.116	742.818	4,683	6.140	70.143	0.119
Price_Volt	12,439	34.772	11.895	4,606	32.312	10.268	0.000
ΔIndMD_ROA	12,579	-0.356	1.156	4,683	-0.332	1.098	0.222
ΔGDP	12,579	1.190	2.631	4,683	0.504	2.936	0.000
OWN	12,383	39.863	22.684	4,634	53.540	21.648	0.000
ΔDebt_Ratio	12,532	58.015	22839.340	4,654	0.853	16.726	0.864
BATH	12,579	-0.256	14.090	4,683	-0.062	2.860	0.350
SMOOTH	12,503	0.156	3.015	4,531	0.024	0.143	0.003
SIZE	12,564	5.623	2.422	4,674	6.262	2.162	0.000

Note: This table reports the summary statistics for the variables used in the analysis, by cluster.

As can be seen from the table, firms in the first cultural cluster have, on average, significantly higher impairment losses, and higher amounts of goodwill, when compared to their counterparts in the second cluster. Firms in the first cluster also display, on average, higher M/B ratios and ΔMrktCap relative to firms in the second cluster. The percentage change in OCF, SALES, ROA, Earn_Volt, IndMD_ROA, and Debt_Ratio did not show any statistically significant difference of their mean values across the two sets of clusters. Price_Volt, ΔGDP are greater, and OWN are lower for firms in the first cluster relative to their counterparts in the second cluster.

6.4 Regression Results across Institutional Clusters

Table 6.5 presents the Tobit analysis examining the determinants of the amounts of goodwill-impairment losses across the two institutional clusters.

Table 6.5 Regression Results across Institutional Clusters

Variable	Cluster1	Cluster2	Cluster1_BT	Cluster2_BT
GW	0.117***	0.083***	0.117***	0.086***
	(8.004)	(9.685)	(8.004)	(9.722)
M/B	-0.010***	-0.004***	-0.010***	-0.004***
	(-5.453)	(-4.230)	(-5.453)	(-4.185)
ΔMrktCap	-0.004	-0.001	-0.004	-0.000
	(-1.456)	(-0.241)	(-1.456)	(-0.075)
ΔOCF	-0.001	-0.017	-0.001	-0.011
	(-0.558)	(-1.020)	(-0.558)	(-0.605)
ΔSALES	-0.034***	-0.001	-0.034***	-0.001
	(-2.962)	(-0.257)	(-2.962)	(-0.184)
ΔROA	-0.001***	-0.002***	-0.001***	-0.002***
	(-3.453)	(-5.997)	(-3.453)	(-5.906)
Earn_Volt	0.000	-0.000	0.000	-0.000
	(1.338)	(-0.344)	(1.338)	(-0.498)
Price_Volt	0.001***	0.001***	0.001***	0.001***
	(4.923)	(4.590)	(4.923)	(4.994)
ΔIndMd_ROA	-0.001	0.000	-0.001	-0.001
	(-0.541)	(0.466)	(-0.541)	(-0.705)
ΔGDP	0.004***	-0.000	0.004***	0.000
	(3.320)	(-1.184)	(3.320)	(0.476)
OWN	0.000	-0.000	0.000	0.000
	(0.705)	(-0.447)	(0.705)	(0.149)
ΔDebt_Ratio	0.001***	0.000	0.001***	0.000
	(3.767)	(0.497)	(3.767)	(0.769)
BATH	0.012	0.210***	0.012	0.210***

	(1.093)	(5.385)	(1.093)	(5.293)
SMOOTH	0.003**	0.031*	0.003**	0.027
	(2.567)	(1.880)	(2.567)	(1.569)
SIZE	0.012***	0.004***	0.012***	0.004***
	(7.903)	(6.506)	(7.903)	(6.430)
BIG4	-0.018**	0.002	-0.018**	0.001
	(-2.563)	(1.079)	(-2.563)	(0.536)
Crisis Period	0.008	0.007***	0.008	0.005**
	(1.425)	(3.152)	(1.425)	(2.441)
Basic Materials	-0.013	0.020***	-0.013	0.019**
	(-0.934)	(2.803)	(-0.934)	(2.510)
Industrials	0.017	0.020***	0.017	0.020***
	(1.335)	(2.970)	(1.335)	(2.908)
Consumer Goods	0.011	0.018***	0.011	0.020***
	(0.815)	(2.696)	(0.815)	(2.808)
Health Care	0.003	0.006	0.003	0.006
	(0.194)	(0.814)	(0.194)	(0.769)
Consumer Services	0.019	0.021***	0.019	0.021***
	(1.407)	(2.994)	(1.407)	(2.852)
Telecommunications	0.045**	0.023***	0.045**	0.029***
	(2.323)	(2.898)	(2.323)	(3.319)
Utilities	-0.025	0.029***	-0.025	0.031***
	(-1.161)	(3.938)	(-1.161)	(3.911)
Technology	0.012	0.022***	0.012	0.022***
	(0.807)	(2.934)	(0.807)	(2.821)
Constant	-0.259***	-0.129***	-0.259***	-0.132***
	(-9.435)	(-8.752)	(-9.435)	(-8.625)
N	6,662	8,236	6,662	7,586
F-statistics	8.73	6.94	8.73	6.82
Prob > F	0.000	0.000	0.000	0.000

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

As can be seen from the table, of the economic factors in Cluster1 (and Cluster1_BT), GW, M/B, ΔSALES, ΔROA, and Price_Volt are statistically significant and have the predicted signs. ΔMrktCap, ΔOCF, Earn_Volt, and ΔIndMd_ROA are insignificant but have the correct signs. In Cluster2 (and Cluster2_BT), GW, M/B, ΔROA are statistically significant and of the correct sign. For reporting incentives proxies, goodwill-impairment losses reported by firms in the first cluster were, on average, significantly related to SMOOTH, while those recorded in the second cluster were (statistically and practically) significantly related to BATH.

As mentioned above, the hypotheses are formulated in terms of the relative association between goodwill-impairment amounts and the economic/reporting incentives across the two sets of clusters. With reference to the economic proxies for goodwill-impairments, a comparison of the coefficients across the two clusters, on the one hand, reveals negative differences for M/B, ΔMrktCap, ΔSALES, and ΔIndMD_ROA, and on the other, reveals positive differences for GW, Price_Volt, BATH, and SMOOTH. Since the predicted sign for these economic proxies is negative (positive) within each cluster, the above negative (positive) differences suggest that these economic factors have relatively higher associations with goodwill-impairment losses recorded by firms in Cluster1 (Cluster1_BT), as compared to those reported by their counterparts in Cluster2 (and cluster2_TB).

With regard to managerial reporting incentives, goodwill-impairment losses reported by firms in the second institutional cluster (Cluster2/Cluser2_BT) were found to have significantly a higher association with big bath reporting behaviour, compared to those recorded by their counterparts in the first cluster. More specifically, for Cluster2/cluster2_BT, the coefficient for BATH was 0.21, with a corresponding p-value of 0.000, suggesting practical significance as well as statistical significance. For Cluster1/Cluster1_BT, the estimate for BATH was clearly not significantly different from zero, with an estimated beta coefficient of 0.01. All in all, the obtained results reveal, on the one hand, firms in Cluster1 (and Cluster1_BT) record impairment losses that are strongly associated with economic impairment proxies, but very weakly associated with big bath reporting proxy, and, on the other hand, firms in Cluster2 (and Cluster2_TB) tend to report impairment losses that are less reflective of their underlying economics, suggesting that managers in those firms use the greater flexibility permitted in the impairment standard in determining the magnitude of goodwill-impairment losses.

6.5 Regression Results across Cultural Clusters

Table 6.6 presents the Tobit analysis examining the determinants of the amounts of goodwill-impairment losses across the two cultural clusters.

Table 6.6 Regression Results across Cultural Clusters

Variable	Cultural Cluster1	Cultural Cluster2
GW	0.121***	0.049***
	(10.986)	(6.085)
M/B	-0.008***	-0.003***
	(-6.143)	(-3.879)
ΔMrktCap	-0.003	-0.001
	(-1.547)	(-0.232)
ΔOCF	-0.001	0.025
	(-0.579)	(1.554)
ΔSALES	-0.021*	-0.015***
	(-1.946)	(-2.909)
ΔROA	-0.001***	-0.003***
	(-2.865)	(-4.213)
Earn_Volt	-0.000	-0.000
	(-0.791)	(-0.430)
Price_Volt	0.001***	0.000**
	(6.359)	(2.246)
ΔIndMd_ROA	-0.002	0.002*
	(-1.158)	(1.929)
ΔGDP	0.002***	-0.000
	(2.739)	(-0.809)
OWN	0.000	-0.000
	(1.094)	(-0.096)
ΔDebt_Ratio	0.001***	-0.000
	(3.564)	(-0.057)
BATH	0.060	0.238***
	(1.257)	(3.437)
SMOOTH	0.003***	0.195***
	(2.923)	(2.794)
SIZE	0.008***	0.004***
	(8.531)	(7.242)
BIG4	-0.011**	-0.000
	(-2.481)	(-0.029)
Crisis Period	0.010***	0.003
	(2.809)	(1.371)
Basic Materials	0.013	0.007
	(1.321)	(1.107)
Industrials	0.027***	0.007
	(2.923)	(1.150)
Consumer Goods	0.026***	0.005
	(2.645)	(0.843)
Health Care	0.018	-0.012
	(1.575)	(-1.638)
Consumer Services	0.030***	0.009

	(3.133)	(1.444)
Telecommunications	0.053***	-0.004
	(4.079)	(-0.510)
Utilities	0.025**	0.013*
	(2.090)	(1.916)
Technology	0.029***	0.002
	(2.798)	(0.381)
Constant	-0.229***	-0.082***
	(-11.866)	(-7.393)
N	11,025	3,873
F-statistics	11.00	5.34
Prob > F	0.000	0.000

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 6.6 shows that firms in the first cultural cluster, wherein countries score rather high on individualism, and rather low on uncertainty avoidance and power distance, seem to have reported, on average, goodwill-impairment losses that were strongly associated with proxies for economic impairment (GW, M/B, Price_Volt), but at the same time, they were weakly associated with reporting incentives proxies (SMOOTH). In contrast, firms in the second cultural cluster, wherein countries score relatively high on uncertainty avoidance and power distance, and medium to low on individualism, have apparently reported impairment losses that are more dominant in their associations with reporting incentives proxies (BATH and SMOOTH), than economic proxies are.

6.6 Additional Analysis: Abnormal Goodwill Impairment Losses across Country Clusters

The results involving abnormal goodwill impairment losses reported in Chapter 5 are used to examine whether they are explained by cluster belonging.

Table 6.7 The Patterns of Abnormal Goodwill-Impairment Losses across Country Clusters

	Institutional Clusters				Cultural Clusters	
Cluster	**Positive**	**Negative**	**Positive**	**Negative**	**Positive**	**Negative**
Cluster2	-0.035***	0.003***				
	(-10.087)	(22.904)				
Cluster2_BT			-0.035***	0.003***		
			(-9.952)	(22.836)		
Cultural Cluster2					-0.029***	0.002***
					(-6.936)	(12.381)
Constant	0.058***	-0.009***	0.058***	-0.009***	0.045***	-0.008***
	(22.570)	(-95.510)	(22.480)	(-94.619)	(22.651)	(-103.474)
N	1,606	10,137	1,585	9,560	1,606	10,137

t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 6.7 reveals that firms in the first institutional (Cluster1/Cluster1_BT) and cultural cluster, on average, have significantly higher positive (and lower negative) amounts of abnormal goodwill-impairment charges, compared to their counterparts in the second institutional (Cluster2/Cluster2_BT) and cultural clusters. This finding implies that firms in the first institutional/cultural cluster seem to have recorded more-than-necessary impairment losses, while firms in the second institutional/cultural cluster appeared to have recorded less-than-necessary goodwill-impairments. This is not surprising, because firms in more litigious countries find it less costly to impair greater amounts of their goodwill rather than not to impair or impair lower amounts than they should do[75]. This is generally consistent with the findings of Amiraslani et al. (2013) who report that firms in countries with outsider economies and strong enforcement of law tend to recognise impairment losses[76]faster than

[75] This is fully consistent with the findings of Ball et al. (2000) who find that firms in common-law countries report more conservative earnings (i.e. report less earnings/higher losses), compared to their counterparts in code-law ones.

[76] These losses are not necessarily fully economic.

their counterparts in countries with insider economies and relatively strong (or weak) law enforcement. In a more recent study, Glaum et al. (2015) also found evidence suggesting that firms in countries with strong law enforcement tend to publicly report impairment losses in a timely manner.

6.7 Discussion and Summary

This chapter compared the association between goodwill-impairment amounts and economic/reporting incentives across institutional and cultural clusters of countries. The results, in general, reveal that firms in the first institutional/cultural cluster(s) appear to have recorded goodwill-impairment losses that are more dominant in their association with economic factors rather than reporting incentives are, suggesting that managers in those firms are applying their accounting discretion afforded by the impairment standard in a relatively efficient manner to produce goodwill-impairment losses that are more reflective of their firms' underlying economics.

While firms in the second institutional/cultural cluster(s) appear to have recorded goodwill-impairment losses that were less reflective of their underlying economics, suggesting that managers in those firms are applying greater reporting flexibility in determining goodwill-impairment amounts. However, the results may also indicate that there is relatively little room for managers of firms within the first clusters to exercise their impairment discretion, and have therefore recorded goodwill-impairment losses that were to some extent influenced by managerial and firm-level incentives, such as taking more impairments when earnings are unexpectedly high.

However, one should interpret the findings of this study with caution, since cultural clusters overlap with institutional clusters. This makes it difficult to evaluate whether the resultant

clusters are culturally-driven or institutionally-driven. Further research needs to be done to validate and extend this study by considering countries with vastly different cultural and institutional backgrounds, and developing new measures that are culture-specific.

7 Chapter 7: The Value-relevance of Goodwill-impairment Losses

7.1 Introduction

This chapter is to report the results with respect to the tests carried out in order to provide evidence concerning the value relevance of goodwill impairment losses for the study's sample of firms (which is the second objective of the study). The value relevance model developed in Chapter 4 was tested for all sample firms and also separately for the different clusters developed in Chapter 6, i.e., institutional/cultural clusters. Sections 7.2 and 7.3 present descriptive statistics and pairwise correlations between the model's independent variables, as well as the empirical results regarding the value-relevance of goodwill-impairment losses for the whole sample and across the two institutional clusters and the two cultural clusters. Section 7.4 reports the empirical results of the impact of various potential explanatory variables on the degree of association between firms' goodwill-impairment losses and their market value of equity. Section 7.5 reports the results of the impact of the global financial crisis on the value-relevance of goodwill-impairment losses. Section 7.6 provides additional empirical evidence in a multivariate context on the timeliness of goodwill-impairment losses.

7.2 Descriptive Statistics

Table 7.1 presents distributional statistics for a selected set of variables included in the OLS regression examining the value-relevance of goodwill-impairment losses.

Table 7.1 Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
MV	16,712	15.981	29.262	0.011	289.025
BV	14,000	7.934	16.997	0.000	166.425
NI	16,758	0.825	2.432	-11.139	21.760
GWA	16,110	3.394	7.334	0.000	64.381
GIL	16,934	0.026	0.132	0.000	1.689

Note: This table reports the summary statistics for the variables used in the regression analysis examining the value-relevance of goodwill-impairments

The table above demonstrates an average share price of $15.98, and an average pre-goodwill book value per share of $7.93. The table also exhibits that the sample firms report average earnings per share of $0.83. The average goodwill per share is $3.39 (i.e., 32.67% of the total book value per share). The average goodwill-impairment loss per share is £0.03.

7.3 Regression Analysis

7.3.1 Correlation coefficients

Table 7.2 shows the pairwise correlation coefficients and their statistical significance for the variables included in the OLS regression for the full pooled sample.

Table 7.2 Pairwise Correlation Matrix

	MV	BV	NI	GWA	GIL
MV	1.000				
BV	0.733*	1.000			
NI	0.706*	0.614*	1.000		
GWA	0.515*	0.398*	0.408*	1.000	
GIL	0.077*	0.089*	0.028*	0.142*	1.000

*The * denotes correlation coefficients with values greater than or equal to 5% significance level.*

As expected, BV, NI, GWA, GIL are significantly positively correlated with MV. Table 7.2 reveals that the independent variables do not highly correlate with one another. The highest pair-wise correlation coefficient is 0.61, implying that the problem of multicollinearity does not appear to be a concern in this study.

7.3.2 VIF

Diagnostic tests were further carried out to check for the problems of multicollinearity and heteroscedasticity in the data.

Table 7.3 Variance Inflation Factor

Variable	VIF	1/VIF
NI	1.73	0.579
BV	1.61	0.621
GWA	1.31	0.761
GIL	1.03	0.968
Mean VIF	1.42	

Table 7.3 shows VIF values and its associated tolerance (1/VIF) for the independent variables of the regression analysis. VIF indicates how much inflation in the standard errors is caused by collinearity, and tolerance, on the other hand, shows the amount of collinearity that a regression can tolerate. As a rule of thumb, a VIF greater than 10, or equivalently, a tolerance value less than 0.1 indicates the presence of harmful collinearity (Myers, 1990; Gujarati, 2009). The results of the VIF statistics show no sign of multicollinearity, all VIF values are much lower than the critical cut point of 10.

7.3.3 Heteroscedasticity

Finally, the Breusch-Pagan /Cook-Weisberg test has been carried out in Stata with the estat hettest command to check for the heteroscedasticity of the panel data, i.e., the non-constant variance of the residuals (or error terms). Results strongly reject the null hypothesis of homoscedasticity (P-value is essentially zero, $p < 0.001$) and find support for the presence of heteroscedastic residuals. To account for the violations of the homoscedasticity assumption, the Huber-White sandwich robust method were used. According to Bernhard (2003), "this method assumes that observations are independent across countries but not necessarily independent within countries" (p. 120). In Stata, the robust standard errors of the estimated parameters can be obtained by adding the vce (robust) option to the regression commands (Baum, 2006).

7.3.4 Results- Pooled and Institutional Clusters

Table 7.4 provides the results of the multivariate OLS-regression models analysing the value-relevance of goodwill-impairment charges for the whole sample of firms, and for each of the four subsamples involving the firms belonging to the institutional clusters (without and with book-tax conformity).

Table 7.4 Value-relevance of Goodwill-Impairment Losses across Institutional Clusters

Variable	Pooled_OLS	Cluster1	Cluster2	Cluster1_BT	Cluster2_BT
BV	0.745***	1.298***	0.701***	1.298***	0.694***
	(23.480)	(8.818)	(21.078)	(8.818)	(20.539)
NI	4.256***	3.258***	4.402***	3.258***	4.408***
	(19.878)	(7.533)	(18.857)	(7.533)	(18.586)
GWA	1.041***	1.631***	0.956***	1.631***	0.948***
	(19.813)	(7.843)	(17.304)	(7.843)	(16.901)
GIL	-2.607	-4.754***	-2.999	-4.754***	-3.345
	(-1.609)	(-2.588)	(-1.429)	(-2.588)	(-1.582)
Constant	3.477***	1.119***	5.103***	1.119***	5.508***
	(23.803)	(4.621)	(19.739)	(4.621)	(19.812)
N	13,510	6,056	7,454	6,056	6,789
F-statistics	976.719	112.053	795.367	112.053	760.668
Prob > F	0.000	0.000	0.000	0.000	0.000
R-squared[77]	0.704	0.622	0.680	0.622	0.677
Root MSE	14.248	6.228	18.142	6.228	18.687

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The coefficients for explanatory variables and their associated p-values are highlighted with one star indicating 95 percent certainty that the results did not happen by chance, two stars 99 per cent certainty, and three stars indicating 99.9 per cent certainty. All F-Statistics were significant with explanatory power (R-Squared) ranging from 62% to 70%, which is comparable to prior research (e.g. Lapointe-Antunes et al., 2009).

In line with the results obtained by (Lapointe-Antunes et al., 2009; AbuGhazaleh et al., 2012), and on the basis of the pooled model presented in the leftmost column of Table 7.4, book value per share (BV), and earnings per share were positively and significantly ($p < 0.001$) associated with share price. As Table 7.4 shows that there is a positive and significant

[77] When using robust standard errors, the adjusted R-squared is not purposefully displayed/reported, "as it is no longer appropriate in a statistical sense even though, mechanically, the numbers would be unchanged. That is, sums of squares remain unchanged, but the meaning you might be tempted to give those sums is no longer relevant. The F statistic, for instance, is no longer based on sums of squares; it becomes a Wald test based on the robustly estimated variance matrix" (StataCorp, 2005, p. 44).

($p < 0.001$) relationship between goodwill per share before impairment (GWA) and share price.

The table also shows that the goodwill-impairment loss per share (GIL) has the expected negative sign, but is insignificant, indicating that these impairment losses do not appear to provide information useful to investors, which will be of assistance in assessing the firm's market value, i.e., they are not value relevant. The estimated coefficient on GIL, however, appears to be sensitive to the inclusion of country-specific dummy variables (GIL, coefficient = -3.376, t-statistics= -2.126, p-value=0.034), suggesting that clear differences between investors in different countries in terms of the perceptions about the importance or value-relevance of goodwill-impairment losses. Although it probably would not have suited the purpose of this study, which sought to trace differences in value-relevance of goodwill-impairment losses to country-specific factors, I consider the inclusion of industry- and time-fixed effects separately (and both jointly with country-fixed effects), and their inclusion, however, had almost no effect on either the coefficient of GIL or its statistical significance.

Once again, however, after splitting the sample into two sub-samples and running separate regressions for each sub-sample, the results reveal notable differences from the baseline results. Specifically, companies in Cluster1 (and cluster1_BT) appeared to have recorded goodwill-impairment charges that are negatively and significantly related to their market values ($\beta = -4.75, p < 0.01$). While goodwill-impairment losses incurred by companies in Cluster2 (and Clsuter2_BT) generally failed to significantly affect market values.

All in all, the obtained results indicate that companies within the strong equity-outsiders cluster, tend to report goodwill-impairment losses that are, on average, more informative to

all users, and more relevant than those reported by companies within the weak equity-outsider cluster. Although goodwill-impairment losses reported by firms belonging to Cluster2 (and Cluster2_BT) are not value relevant, they are value relevant for firms belonging to Cluster1 (and Cluster1_BT).

This pattern of results was, in general, comparable with the earlier findings of Ali and Hwang (2000), who showed that the value-relevance of accounting numbers is lower in bank-oriented countries than market-oriented countries. Davis-Friday et al. (2006) also found evidence broadly consistent with the findings of this study, implying that accounting numbers have relatively low value-relevance, when corporate governance is weak. The overall results suggest that (small) investors are more likely to trust accounting numbers in countries where they feel their investment are well protected by the law (i.e., the rule of law is upheld). This helps to explain why investors in countries with strong equity markets perceive reported impairment losses as reliable measures of the reduction in the carrying amount of goodwill.

7.3.5 Results- Cultural Clusters

Table 7.5 provides the results of the multivariate OLS-regression models analysing the value-relevance of goodwill-impairment charges for the whole sample of firms and for each of the two subsamples involving the firms belonging to the two cultural clusters.

Table 7.5 Value-relevance of Goodwill-Impairment Losses across Cultural Clusters

Variable	Cultural Cluster1	Cultural Cluster2
BV	0.878***	0.618***
	(16.407)	(15.276)
NI	3.975***	4.651***
	(12.944)	(15.180)
GWA	1.344***	0.879***
	(15.844)	(13.026)
GIL	-0.926	-5.236
	(-0.561)	(-1.609)
Constant	2.578***	4.903***
	(13.709)	(14.567)
N	10,077	3,433
F-statistics	487.144	498.541
Prob > F	0.000	0.000
R-squared	0.688	0.709
Root MSE	12.175	18.537

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 7.5 showed no statistically significant differences in the value-relevance of goodwill-impairment losses between the two cultural clusters- albeit this is somewhat contradictory.[78] Firms in both clusters have, on average, failed to report any goodwill-impairment losses that are relevant or strongly associated with their market values of equity. The lack of significant differences between the two clusters can be attributed to the large variations within the cluster, which may have obscured any variations between the clusters.

[78] My earlier analysis showed significant differences between the two institutional clusters, implying that investors belonging to institutional clusters differ in terms of their perceptions about the importance of goodwill-impairment losses. This, unfortunately, was not the case since cultural clusters which, although overlapping with institutional clusters, are not really Siamese, and will never be.

This finding indicates that classifying countries on the basis of their cultural similarities/differences does not often successfully reflect the underlying structure across all the countries included in this study. This suggests the need for another clustering that truly captures much of the cultural uniformity (and diversity) within (and between) the clusters. To maximise the homogeneity within the cultural clusters, and at the same time, maximise the heterogeneity between the cultural clusters, one needs to: (i) include countries that are vastly heterogeneous in terms of Hofstede's five dimensions of culture; (ii) exclude cultural attributes that are less important and have failed to contribute to cultural diversity among countries (e.g. masculinity and long/short-term orientation), and (iii) develop up-to-date measures of cultural attributes that their reliability and validity are established through empirical methods.

Following Lapointe-Antunes et al. (2009), I examine the sensitivity of the results to the inclusion of an interaction term (Expect#GIL) between goodwill-impairment losses (GIL) and Expect, an indicator variable that captures the possible decline(s) in the value of goodwill (i.e., the anticipated goodwill-impairment loss), and equals 1 if the market value of a firm's equity is lower than its book value and an impairment loss is reported (as anticipated), or the market value of a firm's equity is higher than its book value and no impairment loss is reported (as anticipated); and 0 otherwise. Results, reported in the second column of Table 7.6, revealed that the association between 1.Expect#GIL and share price was negative and statistically significant (β= -14.675, t-statistics= -7.365, p-value < 0.01). This result suggests that goodwill-impairments are deemed to be value-relevant when investors perceive that firms behave as expected, i.e., report (do not report) goodwill-impairment losses when the market values of their own equity are lower (higher) than their book values.

7.4 The Effects of BIG4 Auditors and Institutions on the Value-Relevance of Goodwill-Impairment Losses

Table 7.6 presents the results of a set of regressions that examine the indirect-moderating- impact of BIG4 auditors and other institutions (strength of national enforcement of auditing/accounting standards, investor protection, quality of legality, and equity market development) on the degree of association between firms' goodwill-impairment losses and their market value of equity.

Table 7.6 The Effects of BIG4 Auditors and Institutions on the Value-Relevance of Goodwill-Impairment Losses

Variable	Baseline	Expect	BIG4	Audit_Enforce	Invstor_Prtct	Qlty_Lglty	EqtyMrktDvlp
BV	0.745***	0.750***	0.752***	0.752***	0.751***	0.753***	0.750***
	(23.480)	(23.827)	(23.684)	(23.647)	(23.633)	(23.671)	(23.633)
NI	4.256***	4.175***	4.215***	4.219***	4.223***	4.217***	4.226***
	(19.878)	(19.541)	(19.659)	(19.642)	(19.673)	(19.655)	(19.722)
GWA	1.041***	1.049***	1.031***	1.031***	1.032***	1.031***	1.034***
	(19.813)	(20.293)	(19.635)	(19.608)	(19.663)	(19.631)	(19.741)
GIL	-2.607						
	(-1.609)						
0.Expect#GIL		10.810***					
		(4.755)					
1.Expect#GIL		-14.675***					
		(-7.365)					
0.BIG4#0.NEG#GIL			-10.291***				
			(-3.926)				
0.BIG4#1.NEG#GIL			-11.913				
			(-1.643)				
1.BIG4#0.NEG#GIL			3.826*				
			(1.817)				
1.BIG4#1.NEG#GIL			-14.545***				
			(-4.618)				
0.NEG#GIL#Audit_Enforce				0.047			
				(1.055)			

1.NEG#GIL#Audit_Enforce				-0.282***			
				(-4.360)			
0.NEG#GIL#Invstr_Prt					0.234		
					(0.945)		
1.NEG#GIL#Invstr_Prt					-1.516***		
					(-4.221)		
0NEG#GIL#Qlty_Lglty						0.201	
						(1.219)	
1.NEG#GIL#Qlty_Lglty						-1.214***	
						(-4.739)	
0.NEG#GIL#EqtyMrkt_Dvlp							0.011
							(0.682)
1.NEG#GIL#EqtyMrkt_Dvlp							-0.112***
							(-4.347)
Constant	3.477***	3.462***	3.491***	3.476***	3.477***	3.478***	3.484***
	(23.803)	(24.192)	(24.152)	(23.951)	(23.952)	(23.986)	(23.998)
N	13,510	13,510	13,510	13,510	13,510	13,510	13,510
F-statistics	976.72	826.88	570.31	793.13	791.69	794.10	791.51
Prob > F	0.000	0.000	0.000	0.000	0.000	0.000	0.000
R-squared	0.704	0.707	0.705	0.705	0.705	0.705	0.705
Root MSE	14.248	14.165	14.214	14.225	14.228	14.221	14.229

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Note: MV_{it} = Market value of firm i's equity at the end of the year wherein goodwill is tested for impairment.
BV_{it} = Value of firm i's equity at the end of the year wherein goodwill is tested for impairment, minus goodwill's carrying amount at the same year-end.
NI_{it} = Net income at the end of the year wherein goodwill is tested for impairment, plus the amount of goodwill-impairment losses reported at the same year-end.
GWA_{it} = Goodwill's carrying amount at the end of the year wherein goodwill is tested for impairment, plus the amount of goodwill-impairment losses reported at the same year-end.
GIL_{it} = Goodwill-impairment losses reported at the end of t.

In order to evaluate the impact that the type of auditor (BIG4 auditor and non-BIG4 auditor) may have on the association between goodwill-impairment losses and the market values of the firm's equity, I include a three-way interaction term between BIG4 (an indicator variable equal to 1 if the firm's independent auditor is one of the BIG4 auditors, and 0 otherwise), NEG (an indicator variable equal to 1 if the market value of equity is lower than the book value of equity, and 0 otherwise), and GIL (goodwill-impairment losses). Results, reported in the third column of Table 7.6, show that the coefficient for the interaction term (1.BIG4#1.NEG#GIL) is negative and significant (β=-14.545, t-statistics=-4.618, p-value < 0.01). This result indicates that investors put a higher valuation weight on goodwill-impairment losses recorded by firms audited by one of the BIG4 auditors. This is likely to be the case, as investors may perceive that there are reduced opportunities for managers to abuse their impairment discretion in the presence of BIG4 auditors.

In this study, I also examine the impact of national institutions on the association between goodwill-impairment losses and share prices. Table 7.6, column 4 to 7, shows the results of the three-way interaction between Expect, goodwill-impairment losses, and institutional variables (strength of national enforcement of auditing/accounting standards, investor protection, quality of legality, and equity market development). The estimated coefficients on the interaction terms (1.NEG#GIL#Audit_Enforce, β=-0.282, t-statistics= -4.360, p-value < 0.01); (1.NEG#GIL#Invstr_Prt, β=-1.516, t-statistics= -4.221, p-value < 0.01); (1.NEG#GIL#Qlty_Lglty, β=-1.214, t-statistics= -4.739, p-value < 0.01); and (1.NEG#GIL#EqtyMrkt_Dvlp, β=-0.112, t-statistics= -4.347, p-value < 0.01) were negative and significant in all specifications. These results suggest that investors perceive goodwill-impairment losses recorded by firms operating in countries with strong institutions as value-relevant. This is consistent with the role that national institutions play in constraining

potential opportunistic behaviour of the management on goodwill-impairment decisions, thereby ensuring that the reported goodwill-impairment losses are neither overstated nor understated (i.e., no impairment losses are reported when the market value of equity is greater than the book value of equity, but they are only reported when the market value of a firm's equity is lower than its book value).

7.5 The Effect of the Crisis on the Value-relevance of Goodwill-Impairment Losses

Table 7.7 reports results of the value relevance of goodwill-impairment losses for two sub-samples: during (2007-2009), and after (2010-2013) crisis periods.

Table 7.7 Value-relevance of Goodwill-impairments during and after the Global Crisis

Variable	Crisis Period	Post-crisis Period
BV	0.794***	0.703***
	(14.971)	(17.448)
NI	3.683***	4.805***
	(11.740)	(16.131)
GWA	1.054***	1.021***
	(11.489)	(16.283)
GIL	-4.771**	-1.270
	(-2.244)	(-0.537)
Constant	3.970***	3.088***
	(16.933)	(16.514)
N	5,783	7,727
F-statistics	357.439	631.401
Prob > F	0.000	0.000
R-squared	0.674	0.727
Root MSE	14.731	13.811

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

In this study, I also examine the consequences of the recent global financial crisis on the association between goodwill-impairment losses and the market values. To assess whether the association has increased or decreased after the global financial crisis, I divide the whole sample period (2007-2013) into two subsamples: from 2007 to 2009 (the crisis period) and from 2010 to 2013 (the after-crisis periods). This split is consistent with Glaum et al. (2015).

Although economies recovered from the crisis at different speeds, 2009 is the ending point that seems to be applicable to all economies.

In the table above, one can see that the association between market prices and accounting numbers changes over the sample period. In particular, the value-relevance of both book values (BV) and goodwill (GWA) declined after the financial crisis. This is generally consistent with the suggestion of several authors (e.g. Ball and Shivakumar, 2005; Brown et al., 2006) that the value relevance of accounting numbers varies across the business cycle. In particular, Bertomeu and Magee (2011) develop a model linking financial reporting quality to the cyclical variations in macroeconomic activity, and their analytical results show that the quality of financial reporting increases in expansionary times, decreases as the economy deteriorates (i.e., moderate times), and increases again when the economy falls into recessionary times.

Perhaps most importantly, however, the results reveal that goodwill-impairment losses do not seem to have a statistically significant impact on firms' share prices in the period following the global financial crisis, implying that investors have become less sensitised to the importance of goodwill-impairments after the crisis than they were in the crisis period. Another possible reason in favour of higher value-relevance of goodwill-impairment charges reported in periods of crisis relates to the fact that firms are subject to a higher litigation risk or increased scrutiny in crisis periods from investors, creditors, auditors, regulators, and other stakeholders (Chia et al., 2007; Jenkins et al., 2009). One could also consider that investors are more likely to tolerate poor firm performance in crisis periods (Ahmad-Zaluki et al., 2011). These two features should result in mangers having less opportunistic discretion (or less incentive) to manipulate goodwill-impairment reporting, thereby increasing the

extent to which firms' goodwill-impairments reflect their underlying economics, and consequently the value-relevance of their impairment losses.

7.6 Additional Analysis: The Timeliness of Goodwill-Impairment Losses

Timeliness is defined as having "information…available to decision-makers in time to be capable of influencing their decisions" (Conceptual Framework, 2010, QC29). According to Zeghal (1984), "timeliness is recognised as an important characteristic of accounting information by the accounting profession, the users of accounting information and the regulatory agencies" (p. 367). The Conceptual Framework for Financial Reporting (2010, QC19), however, considers the timeliness as ancillary or complementary to the fundamental qualitative characteristics that make accounting information useful (relevance and faithful representation). To be relevant, however, information must also be made available when it is needed. Timeliness alone cannot make information relevant, but the lack of timeliness can rob information of its relevance/usefulness which it might otherwise have had.

In this study, I evaluate the timeliness of goodwill-impairment losses by investigating their associations with both contemporaneous and (one-year and two-year) lagged stock returns using equation the following equation.[79]

$$GWI_{it} = \alpha_0 + \beta_1 RETURN_{it} + \beta_2 RETURN_{it-1} + \beta_3 RETURN_{it-2} + \varepsilon \,, \qquad (7.6)$$

where GWI_{it}= Goodwill-impairment losses reported of a given firm in year t.

[79] Timeliness is similar to value-relevance in the sense that they both are market-based measures of earnings quality, and the measures themselves are based on the association between stock prices/returns and accounting numbers (Francis et al., 2004). While value-relevance is studied by regressing stock returns/prices on earnings following Feltham and Ohlson (1995) and Ohlson (1995), timeliness is studied using reverse regressions of earnings on stock returns/prices following Beaver et al. (1987) and Basu (1997).

$RETURN_{it}$ = Annual stock returns for the year in which goodwill-impairment loss is reported.

$RETURN_{it-1}$= Annual stock returns for the year preceding the announcement of goodwill-impairments.

$RETURN_{it-2}$ = Annual stock returns for the second year preceding the announcement of goodwill-impairments.

The equation (7.6) is estimated using OLS regressions with robust standard errors, after deleting the set of observations lying within the 1st and 99th percentile of the pooled sample. If firms record goodwill-impairment losses in a timely fashion, then one would expect a strong negative association between goodwill-impairment losses and current stock market returns, i.e., the impairment losses will be followed by changes in share prices. However, if firms delay the recognition of goodwill-impairments, then one would observe a strong negative association between impairment losses and stocks' prior one-year (and/or two-year) returns on one hand, and either a weak or no association between goodwill-impairment losses and contemporaneous stocks' returns on the other hand. Under such a scenario, negative performance in stocks' returns will lead the impairment losses, which will already have been impounded into share prices that capture the economic decline(s) in goodwill value ahead of the recognition of the impairment losses, i.e., that losses have little or no effect on share prices. In this case, the goodwill-impairment losses "only represent catch-up adjustments" (Lapointe-Antunes et al., 2009, p. 59) and may, therefore, "only have confirmatory value" (Boennen and Glaum, 2014, p. 36).

Table 7.8 presents the descriptive statistics for the variables included in the regression model examining the associations between firms' goodwill-impairment losses and their stocks' current and prior returns.

Table 7.8 Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
$\mathbf{GWI_{it}}$	16,965	1.952	10.518	0	141.37
$\mathbf{RETURN_{it}}$	16,480	7.150	50.832	-82.61	251.61
$\mathbf{RETURN_{it-1}}$	16,149	7.257	50.814	-82.61	251.49
$\mathbf{RETURN_{it-2}}$	15,679	9.821	52.347	-82.61	251.49

Note: This table presents descriptive statistics for the variables in the timeliness model.

As can be seen from the table above, the average stock returns are 7.15%, 7.26%, and 9.82% for the year in which goodwill-impairment is recognised, the year preceding the recognition of an impairment loss, and the second year preceding the recognition of goodwill-impairments respectively.

Table 7.9 presents the pairwise correlation matrix for the variables included in the timeliness regression model. The figures with an asterisk (*) denote significance at the 5% level.

Table 7.9 Pairwise Correlation Matrix

	$\mathbf{GWI_{it}}$	$\mathbf{RETURN_{it}}$	$\mathbf{RETURN_{it-1}}$	$\mathbf{RETURN_{it-2}}$
$\mathbf{GWI_{it}}$	1.000			
$\mathbf{RETURN_{it}}$	-0.055*	1.000		
$\mathbf{RETURN_{it-1}}$	-0.048*	-0.010	1.000	
$\mathbf{RETURN_{it-2}}$	-0.013	-0.148*	0.003*	1.000

*The * indicates p-values > 0.05.*

In line with prediction, the table above shows that goodwill-impairment losses (GWI) are negatively and significantly correlated with both contemporaneous and lagged stock returns. The independent variables exhibited very weak correlations between themselves, falling below the 0.20 threshold, which indicates that there is no sign of collinearity among the independent variables included in the regression model.

Table 7.10 presents the results of the timeliness model examining the associations between firms' goodwill-impairment losses and their current and prior returns. The table also reports the empirical results comparing the associations between goodwill-impairment losses and contemporaneous and lagged return across different institutional clusters of countries.

Table 7.10 Timeliness of Goodwill-Impairment Losses across Different Institutional Clusters of Countries

Variable	**Baseline**	**Cluster1**	**Cluster2**	**Cluster1_BT**	**Cluster2_BT**	**Strong_Enforce**	**Weak_Enforce**
$RETURN_{it}$	-0.013***	-0.016***	-0.010***	-0.016***	-0.011***	-0.014***	-0.012***
	(-8.080)	(-6.777)	(-4.619)	(-6.777)	(-4.454)	(-6.900)	(-4.312)
$RETURN_{it-1}$	-0.010***	-0.011***	-0.009***	-0.011***	-0.010***	-0.010***	-0.010***
	(-7.693)	(-5.755)	(-5.010)	(-5.755)	(-4.811)	(-6.178)	(-4.605)
$RETURN_{it-2}$	-0.005***	-0.006***	-0.004**	-0.006***	-0.004*	-0.005***	-0.006***
	(-3.737)	(-3.309)	(-2.045)	(-3.309)	(-1.766)	(-2.697)	(-2.661)
Constant	2.218***	2.399***	2.090***	2.399***	2.238***	2.367***	1.892***
	(22.093)	(14.614)	(16.580)	(14.614)	(16.520)	(18.967)	(11.342)
N	14,761	6,282	8,479	6,282	7,843	10,153	4,608
F-statistics	33.35	23.21	11.63	23.21	10.96	22.24	11.69
Prob > F	0.000	0.000	0.000	0.000	0.000	0.000	0.000
R-squared	0.006	0.010	0.004	0.010	0.004	0.006	0.007
Root MSE	10.511	10.824	10.273	10.824	10.661	10.979	9.394

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Note: GWI_{it} = Goodwill-impairment losses reported of a given firm in year t.
$RETURN_{it}$ = Annual stock returns for the year in which goodwill-impairment loss is reported.
$RETURN_{it-1}$ = Annual stock returns for the year preceding the announcement of goodwill-impairments.
$RETURN_{it-2}$ = Annual stock returns for the second year preceding the announcement of goodwill-impairments.

The estimation results of the first timeliness model (headed Baseline) are reported in the first column of Table 7.10, and reveal that goodwill-impairment losses, reported by all firms in the sample, are negatively and significantly associated with their current-year returns ($RETURN_{it}$= -0.013, t-statistics= -8.080, p-value <0.01) and their stock returns in the first year ($RETURN_{it-1}$=-0.010, t-statistics=-7.693, p-value <0.01) and the second year ($RETURN_{it-2}$=-0.005, t-statistics=-3.737, p-value <0.01) before the recognition of any impairment losses. The association was, however, stronger for current returns than for lagged returns, i.e., firms' goodwill-impairment losses were more strongly associated with their contemporaneous stock returns and less strongly related to their prior returns. Taken together, these findings are generally consistent with timely reporting of goodwill-impairment losses.

To examine whether the timeliness of goodwill-impairment losses is influenced by the strength of legal institutions, I partition the sample into observations in countries with strong equity-outsider systems (Cluster1/Cluster1_BT), and those in countries with weaker equity-outsider systems (Cluster2/Cluster2_BT). Results, as reported in columns (2) to (5) of Table 7.10, show that the firms in strong equity-outsider countries tend to have reported goodwill-impairments that were slightly more strongly associated with their contemporaneous returns ($RETURN_{it}$= -0.016, t-statistics= -6.777, p-value <0.01) than those reported by their counterparts in weaker equity-outsider countries ($RETURN_{it}$= -0.010, t-statistics= -4.619, p-value <0.01).

Consistent estimates were obtained when partitioning observations into countries with strong auditing/accounting enforcement systems, and those in countries with weak auditing/accounting enforcement systems. The last two columns of Table 7.10 reveal that

the association between goodwill-impairment losses and contemporaneous returns was slightly stronger for firms in countries with strong national enforcement ($RETURN_{it}$= -0.014, t-statistics= -6.900, p-value <0.01) than it was for firms in weak enforcement countries ($RETURN_{it}$= -0.012, t-statistics= -4.312, p-value <0.01). Overall, the results in Table 7.10, are broadly in line with the findings of Glaum et al. (2015), and confirm that firms in countries with better institutional quality tend to report goodwill-impairment losses that are somewhat more timely than those reported by their counterparts in countries with inferior institutional quality.

Table 7.11 present the results comparing the associations between firm's goodwill-impairment losses and their contemporaneous and lagged return across the two cultural clusters that were also used in the value-relevance test (see section 7.3.5).

Table 7.11 Timeliness of Goodwill-Impairment Losses across Cultural Clusters

Variable	**Cultural Cluster1**	**Cultural Cluster2**
$RETURN_{it}$	-0.015***	-0.010***
	(-6.908)	(-3.096)
$RETURN_{it-1}$	-0.011***	-0.009***
	(-6.507)	(-3.013)
$RETURN_{it-2}$	-0.006***	-0.003
	(-3.631)	(-0.874)
Constant	2.394***	2.339***
	(16.899)	(13.075)
N	8,184	4,829
F-statistics	28.55	4.49
Prob > F	0.000	0.004
R-squared	0.008	0.003
Root MSE	10.756	11.016

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

As can be seen from the table above, the association between goodwill-impairment and contemporaneous stock returns was stronger for firms in Cluster1 ($RETURN_{it}$= -0.015, t-statistics= -6.908, p-value <0.01) than it was for firms in Cluster2 ($RETURN_{it}$= -0.010, t-statistics= -3.096, p-value <0.01). These findings suggest that firms in countries

characterised as being less individualistic with a low tolerance for uncertainty and high power distance tendencies seemed not to impair their goodwill as fast and as timely as their counterparts in individualistic countries with low degrees of uncertainty avoidance and power distance.

I also examine the consequences of the recent global financial crisis on the association between goodwill-impairment losses and their stocks' returns for the current and prior years. To assess whether the association has increased or decreased after the global financial crisis, I divide the whole sample period (2007-2013) into two subsamples: from 2007 to 2009 (the crisis period) and from 2010 to 2013 (the after-crisis period). Table 7.12 reports results.

Table 7.12 Timeliness of Goodwill-impairments during and after the Global Crisis

Variable	**Crisis Period**	**Post-crisis Period**
$RETURN_{it}$	-0.011***	-0.015***
	(-4.589)	(-6.875)
$RETURN_{it-1}$	-0.012***	-0.009***
	(-5.988)	(-4.917)
$RETURN_{it-2}$	-0.005**	-0.005***
	(-2.251)	(-2.751)
Constant	2.162***	2.260***
	(14.150)	(16.346)
N	5,802	8,959
F-statistics	15.72	19.43
Prob > F	0.000	0.000
R-squared	0.006	0.007
Root MSE	10.384	10.594

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The results show that timeliness of goodwill-impairment losses has been influenced by the financial crisis. In particular, the association between goodwill-impairment losses and contemporaneous returns was somewhat stronger in the post-crisis period ($RETURN_{it}$= -0.015, t-statistics= -6.875, p-value <0.01) than it was for the crisis period ($RETURN_{it}$= -0.011, t-statistics= -4.589, p-value <0.01), suggesting that the timeliness of goodwill-impairment losses is higher in the post-crisis period than it is in the crisis period. An explanation for this finding is that in their attempts to restore investors' confidence, who

"react instantaneously more strongly to bad news compared to their reactions to good news" (Kaminsky and Schmukler, 1999, p. 558), firm managers have greater incentives to report good news, and delay (or conceal) bad news (Vichitsarawong et al., 2010), resulting in lack or less timely recognition of their goodwill-impairment losses during crisis periods. This is consistent with the suggestion of Ball (2006) that governments are more likely to turn a blind eye on irregularities in their accounting/financial reporting in their attempt to minimise the negative impact of the crisis.

7.7 Discussion and Summary

This chapter examined the value-relevance of goodwill-impairment losses across the institutional and cultural clusters of countries. Empirical findings, on the one hand, revealed that goodwill impairment losses were not value relevant for the total sample. However, when cluster membership was considered, firms in the first institutional clusters appear to have recorded goodwill-impairment losses that are, on average, more informative to all users, and more relevant than those recorded by firms in the second institutional cluster. This finding indicates that in countries where investors feel their investments are well protected by the law, they will perceive impairment losses as a reliable measure of the economic decline in goodwill value, and are therefore impounded into their evaluation of a firm's market value. On the other hand, results revealed that no statistically significant differences exist between the two cultural clusters on the value relevance of goodwill-impairment losses.

Additional analyses were also conducted to assess the timeliness of goodwill-impairment losses across different country clusters. The results provide evidence that the association between goodwill-impairment losses and contemporaneous returns was relatively stronger than the one between goodwill-impairment losses and lagged returns, implying that firms, in general, tend to recognise goodwill-impairment losses in a somewhat timely manner.

Moreover, the results provide evidence of cross-country differences in the recognition/reporting patterns of goodwill-impairments. In particular, firms in countries with inferior institutional quality tended to react with delays to the decline(s) in the economic value of their goodwill and, therefore, recognised their impairment losses in a less timely fashion, when compared with firms in countries with better institutional quality. Furthermore, the results show that different reporting patterns of goodwill-impairment also existed across cultural clusters, suggesting that the timeliness of goodwill-impairment losses appeared to be driven by cultural differences. Finally, the results show differences in the patterns of goodwill-impairment reporting during the crisis and post-crisis periods. In particular, goodwill-impairment losses reported during the crisis were not as timely as those reported in the post-crisis period.

Caution should be exercised in interpreting the empirical findings of value-relevance studies, since the value-relevance, as defined in the academic literature, is not one of the IASB/FASB stated criteria of relevance and reliability (Barth et al., 2001). Value-relevance is mere association between accounting numbers (book value of equity and earnings) and equity market values, and the accounting standard-setters do not consider "a high association with stock values a 'desirable' attribute for accounting earnings" (Holthausen, and Watts, pp. 4). However, this does not rule out that value-relevance (and timeliness) are always construed as attribute(s) of reporting quality. Therefore, future research needs to continue to find ways to examine the quality of accounting information, specifically in terms of decision usefulness, relevance, or faithful representation. Research findings of this study concerning the value-relevance (and timeliness) of goodwill-impairment losses should be extended to determine whether they will hold up over time.

8 Chapter 8: Conclusion

8.1 Introduction

This chapter will first summarise the main findings of the study and then discuss some of their possible implications for, academics, investors, analysts, auditors, regulators, and standard setters. Next, there will be discussion of the limitations of the study. Then, the chapter concludes by providing a recommendation for future research and practice.

8.2 Objectives and Design of the Study

The focus of this study has been on whether and how goodwill-impairment practices vary, in predictable ways, across countries with varying cultural and institutional environments. The study set two specific research objectives:

i) To investigate the factors that influence the magnitude of goodwill-impairment losses for a sample of companies drawn from a number of countries.

ii) To investigate whether the value-relevance of goodwill-impairment losses differ between different clusters of countries.

Chapter 2 reviewed empirical studies relating to the research questions which provided additional support for the chosen theoretical frameworks. Chapter 3 developed a framework, which takes into consideration the influence of firm-specific, industry-specific, and country-specific variables, rightfully allowing to embed the process of making goodwill-impairment decisions within its cultural and institutional context. The general hypothesis is that the associations between the amounts of goodwill-impairment losses and economic/reporting incentives differ across countries (or groups of countries) with different cultures/institutions. For example, firms operating in countries with well-functioning institutions will record goodwill-impairments that are more dominant in their associations with economic factors

than managerial reporting incentives are. Chapter 3 also discussed the Ohlson (1995) valuation model, linking firm's market value with its book value and earnings, as the theoretical framework underlying the value relevance of goodwill-impairment losses. Following Lapointe-Antunes et al. (2009) and AbuGhazaleh et al. (2012), Ohlson's (1995) model was altered to incorporate goodwill and its impairment losses.

Chapter 4 developed testable hypotheses and statistical models to investigate the impact of firm- and country-specific characteristics on the determination and reporting of goodwill-impairment amounts.

Using a sample of 70 countries, which is exactly the same (Taiwan and Tunisia are excluded) as that used by Djnakov et al (2008) who produced a revised index of La Porta's anti-director rights, I developed empirically tested measures of institutions (Investor Protection, Quality of Legality, and Development of Equity Markets), which proved to be inappropriately measured (or misused) in prior research, and unless circumstances dictated otherwise, they were highly correlated with one another.

These institutions have, then, been utilised to identify robust patterns in institutional characteristics among certain countries using a K-means cluster analysis. Two clusters of countries were formed, corresponding to strong equity-outsider versus weak equity-outsider clusters. I have further conducted another cluster analysis using Hofstede's cultural dimension indices (Power Distance, Individualism, Uncertainty, Masculinity, and Long-term orientation), and two clusters were produced. By comparing the relative associations between goodwill-impairment amounts and economic/reporting incentives across institutional and cultural clusters of countries, the study helps to determine whether

managerial discretion afforded by the impairment standard is differently exercised across country clusters.

8.3 Summary of Empirical Findings

The empirical part that comprises Chapters 5, 6, and 7 was devoted to analysing and interpreting the results obtained from the econometric analysis.

Chapter 5 investigated the determinants of goodwill-impairment losses as reported by firms operating in 17 different countries over the period 2007-2013. Companies in these 17 countries have made more acquisitions (i.e., been more acquisitive) than companies in any other IFRS-adopting countries. Empirical results reveal that firms operating in different countries have different goodwill-impairment patterns. The highest average dollar amounts of impairment losses were reported by firms operating in South Africa, Australia, and the UK. Countries such as Greece, Poland, Italy, and Belgium had the lowest average amount of goodwill-impairments. Specifically, firms in countries with English and Scandinavian legal origins impaired greater amounts of their goodwill, compared to their German and French counterparts.

The results also showed that the amounts of goodwill impairment losses are related to proxies for actual (economic) losses, but also to proxies for managerial reporting incentives. The results do, however, indicate that cultural and institutional parameters are partially responsible for the effects of economic and managerial reporting incentives on goodwill-impairment amounts.

In particular, impairing companies tend to have higher intensity of goodwill, and a greater fluctuation of the share price. Well-performing companies or companies with growth

potential are however found to report lower amounts of impairment-losses. These results are highly consistent with the predictions of this study. Consistent with managers' preference for achieving smooth and consistent patterns of earnings, firms with unusually high earnings are found to impair greater amounts of their goodwill. Empirical results also show that goodwill-impairment amounts increase with the level of debt (and firm size). This probably reflects the higher levels of scrutiny by debtholders (and analysts) that levered (and large) companies face.

At the country level, results provide evidence that national cultural in the form of power distance, individualism, and uncertainty avoidance directly impacts goodwill-impairment amounts in combination with firm-specific factors. Although there is no evidence to support a direct association between being audited by one of the BIG4 auditors and goodwill-impairment amounts, the type of auditor moderates some firm-specific variables (ΔSALES, ΔROA, and SMOOTH). Most importantly, the results showed that the type of legal system not only directly influence the reporting of goodwill-impairment amounts, but also moderate some firm-specific variables. Specifically, firms operating in common-law countries have apparently recorded goodwill-impairment losses that are, on the one hand, strongly associated with economic impairment proxies (GW, ΔOCF, ΔROA, and ΔDebt_Ratio), and on the other, weakly associated with big bath reporting incentive.

In order to identify which of the common-law institutions were responsible for these differences in goodwill-impairment practices, I, therefore, test the impact of four specific institutional characteristics (namely, investor protection, quality of legality, equity market development, and book-tax conformity) on the assessment of goodwill-impairment across countries. Results indicate that the effectiveness of legal institutions and the development of

equity markets play important roles-both directly and indirectly- in the determination and reporting of goodwill-impairment amounts. No evidence of either a direct or an indirect association between the degree of book-tax conformity in a country and goodwill-impairment amounts was found in this study, implying that Blaylock et al.'s (2012) index of book-tax conformity may not be measured accurately enough.

To provide further assurance, an additional analysis was then conducted to examine the direct impact of institutions, as well as the type of auditor on the determination and reporting of abnormal goodwill-impairment losses. Together, findings reveal that BIG4 auditor, investor protection, and equity markets development were more effective in constraining managers' ability to either overstate or understate the amounts of goodwill-impairment losses reported (i.e., record abnormal goodwill-impairment losses), and to ensure that no impairment loss has been made, unless the firm has suffered from impairment in the economic value of its goodwill.

In the second empirical chapter, Chapter 6, I compare the association between goodwill-impairment amounts and economic/reporting incentives across institutional and cultural clusters of countries. The results, in general, reveal that firms in the first institutional (and cultural) cluster appear to have recorded goodwill-impairment losses that are more dominant in their association with economic factors than reporting incentives are, suggesting that managers in those firms are applying their accounting discretion afforded by the impairment standard in a relatively efficient manner to produce goodwill-impairment losses that are more reflective of their firms' underlying economics. While firms in the second institutional (and cultural) cluster appear to have recorded goodwill-impairment losses that were less reflective of their underlying economics, suggesting that managers in those firms use the

greater flexibility permitted in the impairment standard in determining the amounts of impairment losses recognised on goodwill. However, the results also indicate that there may be relatively little room for managers of firms within the first cluster to exercise their impairment discretion, and have therefore recorded goodwill-impairment losses that were to some extent influenced by managerial and firm-level incentives, such as taking more impairments when earnings are unusually high.

In the last empirical chapter, Chapter 7, I compare the value-relevance (and timeliness) of goodwill-impairment losses across institutional and cultural clusters of countries. The results do provide support for the study's hypothesis that the value relevance of goodwill impairment losses varies across different country clusters. They revealed that firms in the first institutional clusters appear to have reported goodwill-impairment losses that are, on average, more relevant (and somewhat more timely) than those recorded by firms in the second institutional cluster, signifying that in countries where investors feel their investment are well protected by the law will perceive reported impairment losses as valid measures of reduction in the carrying amount of goodwill. There were, however, no significant differences found to exist between the two cultural clusters on the value-relevance of goodwill-impairment losses. These findings can be validated through additional research to confirm their generalisability to others countries (or groups of countries) with vastly different cultural backgrounds.

8.4 Implications, Limitations, and Recommendations for Future Research

The findings of this study have several practical implications. For academics, this research paves the way for the development of new, reliable and valid measures of institutions that can be used across many different accounting subjects (e.g. earnings management across countries), and improves the understanding of the determination and reporting of goodwill-

impairment amounts. The findings suggest that goodwill is not only driven by economic/reporting incentives, but also by country-specific factors. In particular, the associations between goodwill-impairment amounts and economic/reporting incentives are conditional on the strength and quality of a country's institutions. This indicates that the impairment of goodwill is not merely an accounting issue, and countries are at different stages of maturity in goodwill-impairment valuation and practices.

The findings also add to the growing body of empirical evidence that IFRS standards are not evenly implemented across countries (as intended by the IASB), potentially impeding the de facto aspect comparability in financial reporting. Hence, investors, analysts and other users should be aware of the particular regulatory environment that exists in the country where the company has operations. Findings also encourage audit firms, in particular, the BIG4, to intensify effort to provide uniform audit quality globally.

Finally, findings should give a signal to IASB and other supervisory authorities that changing accounting standards alone is not enough, and more effort is necessary to effectively and consistently enforce accounting standards across countries.

This study is subject to several caveats. First, due to the lack of publicly available data at CGU(s), this research follows in the footsteps of previous studies, in which all economic factors are measured at level(s) other than that required by the IAS 36. The impacts of these economic factors on the amounts of goodwill-impairments are therefore likely to be underestimated. In addition, crude proxies are used to capture firms' closeness to their potential debt covenant violation (deb-to-assets and debt-to-equity) and managerial

compensation (BATH and SMOOTH) because information on firms' actual (or private) debt and bonus contracts are not directly (or freely) available.

Second, as with all econometric studies, this research may also be subject to omitted-variable bias. Although variables defined in the current study have been carefully chosen, they are not comprehensive of all possible determinants of goodwill-impairment amounts, due to limited data availability.

Third, owing to the limited availability of comparable cross-country data, especially data on revised anti-director rights, anti-self-dealing, and book-tax conformity, this study has been limited to those countries involved in the study (Djankov et al., 2008; Blaylock et al., 2012). Finally, as with almost all studies in international accounting, this research is based on the assumption that a country's institutions are independent from one another (although in reality national institutions evolve jointly over time) and exogenous (i.e., the direction of causality runs from culture/institutions to accounting practices).

Future research needs to examine whether the findings of the present study will hold over time, as enforcement of accounting standards continues to develop further. More precisely, future research should take steps to determine whether the results are representative of all IFRS-adopting countries, and whether this is of real concern, or whether this is a temporary situation and IFRS users will converge, and the diversity will decrease (or even disappear) over time.

Future research could also use the study's newly-developed (and empirically-tested) measures of institutions across many different accounting subjects, and test whether their findings are consistent with the general pattern of the reported results.

Finally, future studies need to find other institutions that drive differences in goodwill-impairment practices across countries, and develop a new measure of the degree of conformity between accounting and tax rules.

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Appendix (1)

The Measures of Three Institutions

i) Exploratory Factor Analysis

Exploratory factor analysis or Principal component analysis is a useful technique in searching for structure among a set of indicators that are highly interrelated (known as factors) or as a method for data reduction. These groups of indicators are assumed to represent dimensions within the data. These dimensions may correspond to concepts that cannot be adequately described by a single measure (Hair et al., 2010). Using a sample of 70 countries, which is exactly the same (Taiwan and Tunisia are excluded) as that employed by Djnakov et al. (2008) who produced a revised index of La Porta's anti-director rights, empirically tested measures of institutions were developed.

Several indicators were considered which drawn from the following databases: World Development Indicators, Worldwide Governance Indicators, Global Financial Development, Doing Business Report, Economic Freedom of the World, Global Competitiveness Report. In total 48 indicators were considered on the basis of face-value criteria (i.e., content validity), and subsequently empirically tested by principal component analysis. The results of this analysis include communalities [80]and factor loadings[81]which help determine which indicators belong to particular institutions and which ones need to be excluded from further analysis. I retain all factors with an eigenvalue greater than 1.00 which results in three factors (institutions), jointly explain 81.837 percent of the total variance in the original data. In addition, the analysis results in 29 items (14 indicators and three indices) that are not cross-loaded with other factors. The table below presents the factor loadings of the 16 indicators involved.

[80] Communality means the amount of variance a measured variable has in common with the constructs upon which it loads (i.e. the variance explained in a measured variable by the construct).

[81] Factor loading means the correlation between the measured variable and its factor.

Structure Matrix

	Commonalities	Component/Factor		
		1	2	3
Government Effectiveness	0.932	0.963		
Control of Corruption	0.936	0.961		
Regulatory Quality Index	0.924	0.96		
Rule of Law	0.925	0.957		
Ethical behavior of firms	0.915	0.955		
Strength of auditing and reporting standards	0.865	0.922		
Regulatory Quality	0.825	0.907		
Protection of minority shareholders' interests	0.804	0.875		
Efficacy of corporate boards	0.763	0.851		
Regulation of securities exchanges	0.724	0.845		
Anti-self-dealing index	0.830		0.903	
Strength of investor protection index	0.808		0.886	
Business extent of disclosure index	0.757		0.868	
Revised Anti-director Index	0.552		0.742	
Stock market capitalisation to GDP	0.862			0.926
Stocks market value traded to GDP	0.822			0.905
Number of listed companies	0.670			0.813
Eigen Value		10.19	2.38	1.35
Explained Variance %		59.912	14.00	7.928

The Bartlett's test finds that indicators collectively meet the necessary threshold of sampling adequacy with a value of 0.885 (significant at the level of 0.001). All variables have a commonality value exceeding 0.5. These 17 measured indicators also exceed the threshold value (0.65) which means that they meet the fundamental requirement for factor analysis. According to Hair et al. (2010), in a sample of 70, a factor loading of 0.65 is considered practically significant.

The contribution of each factor to the total amount of explained variance obviously covaries with the number of items loading on it. The factor loadings show a clearly structured pattern (i.e., there are no cross/double loadings or situations where the same indicator is associated with more than one factor). The loading pattern of the items suggests a distinction between three factors (institutions). Each factor (or institution) is assigned a name based on the characteristics of the

indicators that are related to the factor. Several of the factors are associated with indicators that one might expect ex-ante to be highly correlated and thus, it is simple to name these factors.

The first factor (shown as 1 in Structure Matrix Table) has three relevant indicators that are measures of the size of the stock market (market capitalization, the number of listed domestic companies) and activity/liquidity of the stock market (value of shares traded as a percentage of GDP). Thus, I termed this factor/institution as Development of Equity Markets, and high scores on this factor are associated with well-developed equity markets, whereas low scores are associated with relatively less developed stock markets.

The second factor has three indicators that are all related to the level of protection provided to shareholders with one of its indicators (disclosure level), measuring the degree to which shareholders' rights are protected via financial reporting disclosure. Thus, the second factor/institution is termed as Level of Investor Protection.

However, the naming of the first factor can be tricky and difficult. The first factor/institution has six relevant indicators, which measures of the legality, or the effectiveness/efficiency of the existing legal rules, institutions and procedures; with two of its indicators seemingly[82] related to the legal protection for investors; as well as two indicators purporting to measure the regulation

[82] Many researchers seem to slavishly rely on their own understanding/judgement as well as the wording of survey questions to arrive at their interpretation of what is measured by a single-item indicator. This is a serious problem (usually referred to as interpretational confounding) arising from a discrepancy between a construct's nominal and empirical meaning, which is solely based on the epistemic relationships between the latent construct and a set of observed variables (Burt, 1976; MacKenzie et al., 2011). Experienced researchers should, therefore, attest that "seemingly identical statements produce widely different answers. By incorporating slightly different nuances of meaning in statements in the item pool, the researcher provides a better foundation for the eventual measure" (Churchill Jr., 1979, p. 68). Because we know what we mean by our questions and we are not confused by the layout and organisation of our instrument, data collected using this instrument will naturally produce content valid measures (i.e., any errors which result are obviously a function of the respondent and not a function of our instrument). But what about ambiguous questions which produce guessing (e.g. survey administered in different countries).

and supervision of securities exchanges and the strength of auditing and reporting standards respectively. Thus, the second factor/institutions is named as Effectiveness of Legal Institutions or quality of Legality.

Component Correlation Matrix

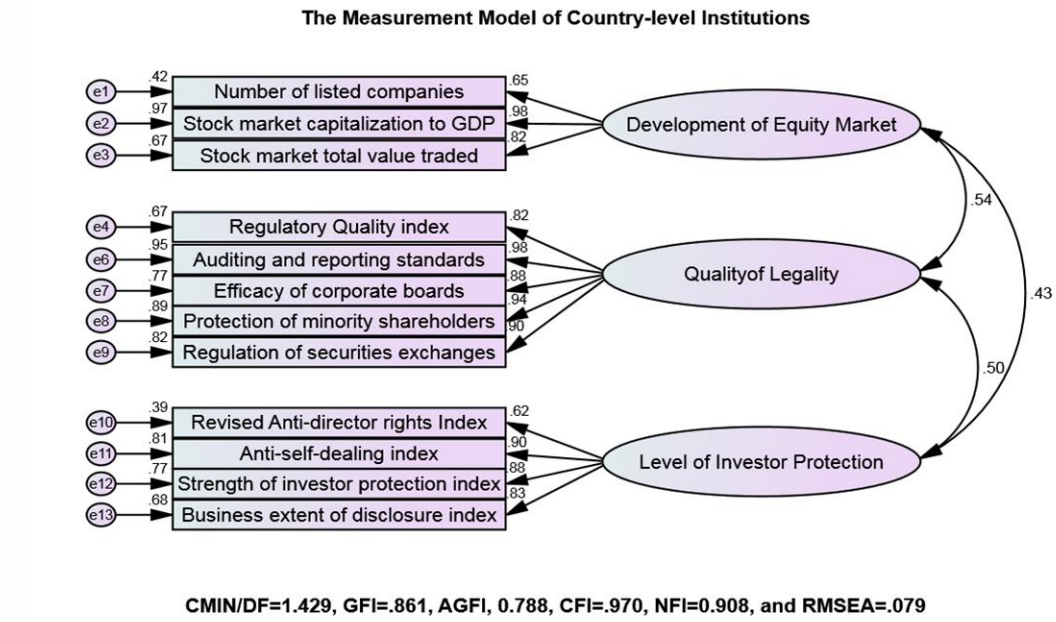
Component	1	2	3
1	1.000	0.380	0.517
2	0.380	1.000	0.384
3	0.517	0.384	1.000

The measures of these three factors/institutions demonstrate discriminant/divergent validity. Discriminant validity is established when measures of different factors are distinct (i.e., there are low correlation among the factors) (Harrington, 2008). According to Brown (2012), "factor inter-correlations above .80 or 0.85 imply poor discriminant validity" (p. 32). As can be seen from the correlation matrix table, the correlations between the three factors/institutions are relatively low or moderate, ranging from 0.40 to 0.49, which would indicate that the items underlying the concept of investor protection should not be used to measure the concept of legality or vice versa.

i) Confirmatory Factor Analysis

According to Hair et al. (2010), "validation of any factor analysis result is essential, particularly when attempting to define the underlying structure among the variables". Confirmatory factor analysis enables us to analytically test proposed measurement models, which may arise from theoretical considerations or be based on the results of an exploratory factor analysis.[83]Such models show how and how well (i.e., construct validity/reliability) different measured items come together (i.e., factor structure) to represent the constructs.

[83] According to Everitt and Hothorn (2011), it is perfectly appropriate to arrive at a measurement model from an exploratory factor analysis. Any such model must, however, be tested on a fresh set of data. "Models must not be generated and tested on the same data" (p. 201). I randomly split the sample into two equal samples of thirty-five countries and re-estimate the factor models to test for comparability. The result shows that the underlying structure among the variables are quite comparable across the two samples in terms of factor loading and communalities.



Initially, exploratory factor analysis was used to ascertain which item to include as a part of a factor. An item is included in as part of a factor when it is loaded at 0.65 or higher. The figure above presents the results of confirmatory factor analysis. As can be seen, three composite measures were formed based on 24 items (9 indicators and 3 indices) as the analysis excluded five items. Confirmatory factor analysis (such as structural equation modelling using Amos 22) was used to test the reliability and validity of the measurement instruments. To do so, I construct a parsimonious[84]measurement model (it consumes fewer degrees of freedom) for each dimension of institutions (i.e., factor). The various dimensions are subsequently combined into an encompassing model that estimates the relations between institutional dimensions to check the discriminant validity among the factors.

[84] A researcher should always strive to have the most representative and parsimonious set of variables possible to include in the analysis, "guided by conceptual and practical considerations" (Hair et al., 2010).

A review of the fit indices for the three-factor model resulted in concluding that the model, overall, provides a satisfactory (or an adequate) fit for the observed data. The ratio of the chi-square[85]to the degrees of freedom CMIN/DF was found to be approximately 1.4 (below the thresholds 2-5), which suggests an acceptable model fit. Furthermore, although both values are lower than desired, the goodness of fit index (GFI=0.86 < 0.90) and the adjusted goodness of fit index (AGFI=0.79 < 0.90) indicate a reasonable model fit. The root means square error of approximation (RMSE=0.08 <0.10) is at an acceptable level. Finally, the comparative fit index (CF=0.91 >0.90) suggests a good model fit.

Regression Weights, and Standardized Regression Weights

	Regression Weights					***Standardized Regression Weights>0.7***
	Estimate	***S.E.***	***C.R.***	***P***		***Estimate***
Regulatory Quality Index	**1.000**					**.820**
Strength of auditing and reporting standards	**.493**	**.041**	**12.081**	*******		**.976**
Efficacy of corporate boards	**.310**	**.032**	**9.823**	*******		**.880**
Protection of minority shareholders' interests	**.457**	**.040**	**11.316**	*******		**.944**
Regulation of securities exchanges	**.432**	**.042**	**10.381**	*******		**.905**
Stock market total value traded	**1.000**					**.820**
Stock market capitalization	**.974**	**.113**	**8.629**	*******		**.983**
Number of listed companies	**.003**	**.000**	**5.947**	*******		**.646**
Business extent of disclosure index	**1.000**					**.826**
Strength of investor protection index	**.611**	**.070**	**8.718**	*******		**.877**
Anti-self-dealing index	**.093**	**.010**	**8.973**	*******		**.899**
Revised Anti-director Index	**.312**	**.057**	**5.491**	*******		**.622**

All of the loadings estimates are positive and statistically significant as required for convergent validity. Two of the estimates fall below the 0.7 cut-off (.622 and .646).

[85] The Chi-square statistic is marginally useful when used alone, due to its sensitivity sample size.

The next step is to calculate the construct reliabilities of the three constructs. The reliabilities for all of our constructs exceed the suggested Threshold of .70.

In terms of discriminant validity, I compare the average variance extracted (AVE) estimates for each factor with the squared inter-construct correlations (SIC) associated with that factor. Note that all variance extracted (AVE) estimates in Table (4) exceed the suggested level of .5, and are greater than the corresponding squared inter-construct correlation estimates (SIC). The model, therefore, demonstrates discriminant validity.

Construct Reliability, Average Variance Extracted, and inter-construct Correlations

	CR>.7	***AVE>.5*** ***AVE>SIC***	***Equity Market Development***	***Quality of Legality***	***Investor Protection***
Equity Market Development	**0.86**	**0.69**	**0.83**		
Quality of Legality	**0.96**	**0.83**	**0.54**	**0.91**	
Investor Protection	**0.88**	**0.66**	**0.43**	**0.5**	**0.81**

Squared/Inter-construct Correlations

Correlation	***SIC***
0.54	**0.29**
0.43	**0.18**
0.50	**0.25**

In summary, the above analysis resulted in the following measures for the three variables of interest, Investor protection, Quality of Legality, and Development of Equity Market and for the 70 countries. Appendix 3 reports the results.

Appendix (2)

Description of the Institutional Variables

1 Investor Protection

The principal component of: (1) Revised anti-director rights index; (2) Anti-self-dealing index; (3) Strength of investor protection index; and (4) Business extent of disclosure index.

1.1 ***Revised anti-director rights index.*** *It represents an aggregate measure of legal protection of minority shareholders against expropriation by corporate insiders. Source: Djankov et al. (2008).*

1.2 ***Anti-self-dealing index (0-1).*** *Average of ex-ante and ex-post private control over self-dealing transactions. Source: Djankov et al. (2008).*

1.2.1 Ex-Ante Private Control of Self-Dealing. It captures the strength of private enforcement of provisions against self-dealing by insiders focusing on ex ante control (e.g. requiring approval by disinterested shareholders and ex ante disclosures). Source: Djankov et al. (2008).

1.2.2 Ex-Post Private Control of Self-Dealing. It captures the strength of private enforcement of provisions against self-dealing by insiders focusing on ex post control (e.g. periodic filings requirements and ease of proving wrongdoing). Source: Djankov et al. (2008).

1.3 ***Strength of investor protection index (0-10):*** *The average of (1) the extent of disclosure index, (2) the extent of director liability index and (3) the ease of shareholder suits index. Source: Doing Business Indicators (World Bank Group).*

1.4 ***Extent of disclosure index:*** *Disclosure index measures the extent to which investors are protected through disclosure of ownership and financial information. The index ranges from 0 to 10, with higher values indicating more disclosure. Source: World Bank/World Development Indicators.*

2 Quality of Legality

The principal component of: (1) Regulatory quality index; (2) Strength of auditing and reporting standards; (3) Efficacy of corporate boards; (4) protection of minority shareholders; and (5) Regulation of securities Exchanges.

2.1 ***Regulatory Quality Index & Government Investment:*** *The simple average of (1) Judicial independence (2); Impartial courts; (3) Protection of property rights; (4) Military interference in rule of law and politics; (5) Integrity of the legal system; (6) Legal enforcement of contracts; (7) Extra payments/bribes/favouritism; and (8) Government enterprises and investment. Source: Economic Freedom of the World, Global Competitiveness Report.*

2.1.1 Judicial independence. This component is from the Global Competitiveness Report question: "Is the judiciary in your country independent from political influences of members of government, citizens, or firms? No—heavily influenced (= 1) or Yes—entirely independent (= 7)." All variables from the Global Competitiveness Report were converted from the original 1-to-7 scale to a 0-to-10 scale using this formula: $\boldsymbol{EFW_i = ((GCRi - 1) \div 6) \times 10}$*. Source: World Economic Forum, Global Competitiveness Report.*

2.1.2 Impartial courts. This component is from the Global Competitiveness Report question: "The legal framework in your country for private businesses to settle disputes and challenge the legality of government actions and/or regulations is inefficient and subject to manipulation (= 1) or is efficient

and follows a clear, neutral process (= 7).” Note the “Rule of Law” ratings from the ***World Bank’s Worldwide Governance Indicators (WGI)*** *project have been used to fill in country omissions in the primary data source since 1995. Source: World Economic Forum.*

2.1.3 Protection of property rights. This component is from the Global Competitiveness Report question: “Property rights, including over financial assets, are poorly defined and not protected by law (= 1) or are clearly defined and well protected by law (= 7).” Note this replaces a previous Global Competitiveness Report question on protection of intellectual property. Source: World Economic Forum.

2.1.4 Military interference in rule of law and politics. This component is based on the International Country Risk Guide Political Risk Component G. Military in Politics: “A measure of the military’s involvement in politics. A system of military government will almost certainly diminish effective governmental functioning, become corrupt, and create an uneasy environment for foreign businesses.” Note the “Political Stability and Absence of Violence” ratings from the ***World Bank’s Worldwide Governance Indicators (WGI)*** *project have been used to fill in country omissions in the primary data source since 1995. Source: World Economic Forum.*

2.1.5 Integrity of the legal system. This component is based on the International Country Risk Guide Political Risk Component ***(Law and Order)****: “Two measures comprising one risk component. Each sub-component equals half of the total. The ‘law’ sub-component assesses the strength and impartiality of the legal system, and the ‘order’ sub-component assesses popular observance of the law.” Source: World Economic Forum.*

2.1.6 Legal enforcement of contracts. This component is based on the ***World Bank’s Doing Business*** *estimates for the time and money required to collect a debt. Zero-to-10 ratings were constructed for (1) the time cost (measured in number of calendar days required from the moment the lawsuit is filed until payment) and (2) the monetary cost of the case (measured as a percentage of the debt). Source: World Economic Forum.*

2.1.7 Extra payments/bribes/favouritism. This sub-component is based on the Global Competitiveness Report questions: “In your industry, how commonly would you estimate that firms make undocumented extra payments or bribes connected with the following: A – Import and export permits; B – Connection to public utilities (e.g., telephone or electricity); C – Annual tax payments; D – Awarding of public contracts (investment projects); E – Getting favourable judicial decisions. Common (= 1) Never occur (= 7)”; “Do illegal payments aimed at influencing government policies, laws or regulations have an impact on companies in your country? 1 = Yes, significant negative impact, 7 = No, no impact at all”; and “To what extent do government officials in your country show favouritism to well-connected firms and individuals when deciding upon policies and contracts? 1 = Always show favouritism, 7 = Never show favouritism.” Source: World Economic Forum.

2.1.8 Government enterprises and investment. Data on government investment as a share of total investment were used to construct the zero-to-10 ratings. Countries with more government enterprises and government investment received lower ratings. When the government investment

share was generally less than 15% of total investment, countries were given a rating of 10. Source: World Economic Forum.

2.2 ***Strength of auditing and reporting standards.*** *This component is from the Global Competitiveness Report question: "In your country, how would you assess financial auditing and reporting standards regarding company financial performance?" [1 = extremely weak; 7 = extremely strong]. Source: Global Competitiveness Report.*

2.3 ***Efficacy of corporate boards.*** *This component is from the Global Competitiveness Report question: "How would you characterize corporate governance by investors and boards of directors in your country?" [1 = management has little accountability to investors and boards; 7 = investors and boards exert strong supervision of management decisions]. Source: Global Competitiveness Report.*

2.4 ***Protection of minority shareholders.*** *This component is from the Global Competitiveness Report question: "In your country, to what extent are the interests of minority shareholders protected by the legal system?" [1 = not protected at all; 7 = fully protected]. Source: Global Competitiveness Report.*

2.5 ***Regulation of securities Exchanges.*** *This component is from the Global Competitiveness Report question: "How would you assess the regulation and supervision of securities exchanges in your country?" [1 = ineffective; 7 = effective]. Source: Global Competitiveness Report.*

3 ***<u>Development of Equity Market</u>***

The principal component of: (1) the ratio of the number of domestic firms listed in a given country to its population; (2) Market capitalization of listed companies (% of GDP); and (3) Stock market total value traded to GDPP.

3.1 The average ratio of the total market capitalisation to the country's GDP for the period 2006-2010. Source: World Bank/The Global Financial Development (GFD).

3.2 The national Logarithm of the average ratio of the number of domestic firms listed in a given country to its population (in millions) for the period 2006-2010. Source: World Bank/The Global Financial Development (GFD).

3.3 The average ratio of the total value of shares traded to the country's GDP for the period 2006-2010. Source: World Bank/The Global Financial Development (GFD).

Appendix (3)

Data on Measures of Institutions for 70 countries classified by their legal origin

Country	Legal Origin	Investor Protection	Equity Market Development	Quality of Legality
Australia	English	8.7	141.03	11.91
Canada	English	9.65	140.98	11.91
Ghana	English	8.24	23.1	9.51
Hong Kong	English	11.87	510.38	11.75
India	English	8.02	101.66	10.46
Ireland	English	10.43	53.53	10.57
Israel	English	9.54	117.84	10.95
Jamaica	English	6.04	78.04	10.12
Kenya	English	4.72	49.73	8.93
Malaysia	English	11.31	143.33	10.91
New Zealand	English	11.62	56.13	12.1
Nigeria	English	6.55	36.38	8.32
Pakistan	English	6.98	40.22	8.7
Singapore	English	11.93	188.57	12.11
South Africa	English	10.27	232.95	12.24
Sri Lanka	English	6.19	35.34	10.15
Thailand	English	9.7	75.11	9.93
Uganda	English	4.95	22.74	8.11
United Kingdom	English	11.04	144.36	11.5
United States	English	9.1	141.71	10.78
Zimbabwe	English	6.58	216.99[86]	9.84

[86] Stock market development index exhibits a considerable variability across countries. The top ten countries are Hong Kong, Switzerland, South Africa, Zimbabwe, Luxembourg, Singapore, Jordan, UK, Malaysia, and US (none of these ten countries was included in the regression, apart from South Africa and UK). These findings tell us three important things. First, stock market development has little to do with the size of a country. The US, although being the largest economy in the world, has an average score lower than Hong Kong (Hong Kong is a major outlier). Second, contrary to expectations, corporations from emerging economies rely more heavily on equity financing. Third, although the data on stock market development indicators were obtained from official World Bank publications and its website, emerging market economies would suffer from serious informational and disclosure deficiencies owing to the lack of effective supervision by regulatory authorities. As Yartey (2008) states, "compared with the highly organised and properly regulated stock market activity in

Argentina	French	5.54	31.81	7.89
Belgium	French	8.22	76.73	11.22
Bolivia	French	3.45	24.12	7.01
Brazil	French	6.28	76.32	9.83
Chile	French	8.13	121.7	10.83
Colombia	French	8.13	56.8	8.78
Ecuador	French	3.26	17.38	7.74
Egypt	French	5.85	73.23	9.18
El Salvador	French	4.47	33.91	8.88
France	French	7.27	95.69	11.12
Greece	French	3.6	56.89	9.52
Indonesia	French	8.36	47.91	9.5
Italy	French	6.68	42.95	8.28
Jordan	French	4.64	174.27	10.39
Kazakhstan	French	7.18	48.56	8.17
Lithuania	French	6.05	30.26	9.73
Luxembourg	French	5.56	204.41	11.51
Mexico	French	6.14	44.16	9.16
Morocco	French	5.8	83.34	8.86
Netherlands	French	4.71	100.78	11.54
Panama	French	4.74	40.54	9.8
Peru	French	7.65	71.52	9.43
Philippines	French	4.64	62.56	9.42
Portugal	French	6.82	53.44	10.07
Romania	French	7.67	36.92	8.73
Russia	French	6.28	81.61	7.61
Spain	French	6.35	110.52	9.74
Turkey	French	7.01	44.71	8.84
Ukraine	French	3.75	40.27	7.06
Uruguay	French	4.41	11.53	9.03
Venezuela	French	2.73	11.48	7.64

the US and the UK, most emerging markets do not have such a well-functioning market. Not only are there inadequate government regulation, private information gathering and dissemination firms as found in more developed stock markets are inadequate" (p. 9).

Austria	German	5.37	46.11	11.43
Bulgaria	German	8.29	38.65	8.17
China	German	8.01	110.89	8.81
Croatia	German	4.12	67.7	8.73
Czech Rep.	German	5.41	38.89	9.73
Germany	German	5.82	60.67	11.46
Hungary	German	4.18	36.52	9.93
Japan	German	8.09	98.08	10.55
Korea (Rep.)	German	7.14	106.75	9.63
Latvia	German	6.17	20.35	9.24
Poland	German	6.26	46.02	9.49
Slovak Rep.	German	5.06	18.97	9.34
Switzerland	German	3.97	243.12	11.37
Denmark	Scandinavian	7.63	83.35	11.78
Finland	Scandinavian	7.08	100.71	12.18
Iceland	Scandinavian	5.94	108.34	10.39
Norway	Scandinavian	7.56	81.09	12.04
Sweden	Scandinavian	6.78	126.88	12.47

Appendix (4)

Results of K-Means Cluster Analysis Using Institutional and Cultural Traits

Institutional Clusters				**Cultural Clusters**	
Panel (A)		**Panel (B)**			
Cluster1	Cluster2	Cluster1_BT	Cluster_2BT	Cluster1	Cluster2
Australia	Argentina	**Australia**	**Austria**	**Australia**	Argentina
Canada	**Austria**	Canada	**Belgium**	**Austria**	**Belgium**
Chile	**Belgium**	Chile	Brazil	Canada	Brazil
Israel	Bolivia	Malaysia	**Denmark**	**Denmark**	Bulgaria
Jordan	Brazil	Singapore	**Finland**	**Finland**	China
Luxembourg	Bulgaria	**South Africa**	**France**	**Germany**	Colombia
Malaysia	China	**Sweden**	**Germany**	Hungary	Croatia
Singapore	Colombia	Switzerland	**Greece**	Iceland	Czech Rep.
South Africa	Croatia	**United Kingdom**	India	Ireland	Egypt
Sweden	Czech Rep.	United States	Indonesia	Israel	El Salvador
Switzerland	**Denmark**		Ireland	**Italy**	**France**
United Kingdom	Ecuador		**Italy**	Latvia	Ghana
United States	Egypt		Japan	Lithuania	**Greece**
Zimbabwe	El Salvador		Korea (Rep.)	Luxembourg	Hong Kong
	Finland		Mexico	**Netherlands**	India
	France		**Netherlands**	New Zealand	Indonesia
	Germany		New Zealand	**Norway**	Japan
	Ghana		**Norway**	**South Africa**	Jordan
	Greece		Pakistan	**Sweden**	Korea (Rep.)
	Hungary		Philippines	Switzerland	Malaysia
	Iceland		**Portugal**	**United Kingdom**	Mexico
	India		**Spain**	United States	Morocco
	Indonesia		Thailand		Nigeria
	Ireland				Pakistan
	Italy				Peru
	Jamaica				Philippines
	Japan				**Poland**
	Kazakhstan				**Portugal**
	Kenya				Romania
	Korea (Rep.)				Russia
	Latvia				Singapore
	Lithuania				Slovak Rep.
	Mexico				**Spain**
	Morocco				Sri Lanka
	Netherlands				Thailand
	New Zealand				Turkey
	Nigeria				Ukraine
	Norway				Uruguay

Pakistan	Venezuela
Panama	
Peru	
Philippines	
Poland	
Portugal	
Romania	
Russia	
Slovak Rep.	
Spain	
Sri Lanka	
Thailand	
Turkey	
Uganda	
Ukraine	
Uruguay	
Venezuela	

Appendix (5)

Differences in Institutional and Cultural Traits across Country Clusters

	Cluster	Number of Cases in each Cluster							
	1	55	Institutional-Panel (A)	Cluster		Error		F	Sig.
	2	14		Mean Square	df	Mean Square	df		
Valid		69	Investor Protection	46.126	1	3.821	67	12.072	0.001
Missing		1	Equity Market Development	134785.374	1	989.736	67	136.183	0.000
			Quality of Legality	36.863	1	1.408	67	26.187	0.000
	1	10	Institutional-Panel (B)	Cluster		Error		F	Sig.
	2	23		Mean Square	df	Mean Square	df		
Valid		33	Investor Protection	26.107	1	4.052	31	6.443	0.016
Missing		37	Equity Market Development	56197.874	1	938.981	31	59.85	0.000
			Quality of Legality	9.35	1	1.029	31	9.083	0.005
			Book Tax	0.008	1	0.06	31	0.133	0.718
	1	40	Cultural	Cluster		Error		F	Sig.
	2	22		Mean Square	df	Mean Square	df		
Valid		62	Power Distance	20561.731	1	142.656	60	144.135	0.000
Missing		8	Individualism	20939.15	1	201.022	60	104.163	0.000
			Masculinity	9.767	1	427.289	60	0.023	0.880
			Uncertainty Avoidance	4475.291	1	426.817	60	10.485	0.002
			Long-Term Orientation	185.112	1	544.534	60	0.34	0.562

Appendix (6)

IFRS Requirements for Domestic Listing

IFRS Not Permitted, Permitted, or Required for Some	IFRS Required for All	Late Adopter Countries	Countries with Insufficient Country/Firm Data	Country Sample
Albania	Anguilla	Brazil (2010)	Anguilla	Australia
Algeria	Antigua and Barbuda	Chile (2009)	Antigua and Barbuda	Austria
American Samoa	Armenia	Ecuador (2012)	Armenia	Belgium
Angola	Australia	Korea (South) (2011)	Azerbaijan	Denmark
Argentina	Austria	Malaysia (2012)	Bahamas	Finland
Aruba	Azerbaijan	New Zealand (2007)	Bahrain	France
Belarus	Bahamas	Nigeria (2012)	Bangladesh	Germany
Belize	Bahrain	Peru (2012)	Barbados	Greece
Benin	Bangladesh	Taiwan (2013)	Bosnia and Herzegovina	Italy
Bermuda	Barbados		Botswana	Netherlands
Bhutan	Belgium		Bulgaria	Norway
Bolivia	Bosnia and Herzegovina		Cambodia	Poland
Brunei Darussalam	Botswana		Costa Rica	Portugal
Burkina Faso	Brazil		Croatia (Hrvatska)	South Africa
Burundi	Bulgaria		Cyprus	Spain
Canada (2011)	Cambodia		Czech Republic	Sweden
Cayman Islands	Chile		Dominican Republic	United Kingdom
China	Costa Rica		Estonia	
Colombia	Croatia (Hrvatska)		Fiji	
Cote D'Ivoire (Ivory Coast)	Cyprus		Georgia	
Cuba	Czech Republic		Ghana	
Dominica	Denmark		Grenada	
Egypt	Dominican Republic		Guatemala	
El Salvador	Ecuador		Guyana	
Eritrea	Estonia		Honduras	
Gambia	Fiji		Hungary	
Gibraltar	Finland		Iceland	
Greenland	France		Iraq	
Guam	Georgia		Ireland	
Haiti	Germany		Jamaica	
Hong Kong	Ghana			

India	Greece	Jordan
Indonesia	Grenada	Kazakhstan
Iran	Guatemala	Kenya
Israel (2008)	Guyana	Kuwait
Japan	Honduras	Kyrgyzstan
Laos	Hungary	Latvia
Lesotho	Iceland	Lebanon
Liberia	Iraq	Libya
Macau	Ireland	Liechtenstein
Madagascar	Italy	Lithuania
Maldives	Jamaica	Luxembourg
Mali	Jordan	Macedonia
Mauritania	Kazakhstan	Malawi
Mexico	Kenya	Malta
Morocco	Korea (South)	Mauritius
Mozambique	Kuwait	Moldova
Myanmar	Kyrgyzstan	Mongolia
Nepal	Latvia	Montenegro
Netherlands Antilles	Lebanon	Namibia
New Caledonia	Libya	Nicaragua
Niger	Liechtenstein	Oman
Pakistan	Lithuania	Panama
Paraguay	Luxembourg	Papua New Guinea
Philippines	Macedonia	Qatar
Reunion	Malawi	Romania
Russia	Malaysia	Serbia (Republic of)
Samoa	Malta	Sierra Leone
Saudi Arabia	Mauritius	Slovak Republic
Senegal	Moldova	Slovenia
Singapore	Mongolia	St Kitts and Nevis
Sri Lanka	Montenegro	Tajikistan
Suriname	Namibia	Tanzania
Swaziland	Netherlands	Trinidad and Tobago
Switzerland	New Zealand	
Thailand	Nicaragua	United Arab Emirates

Togo	Nigeria	West Bank/Gaza
Tunisia	Norway	Zambia
Turkey	Oman	
Turkmenistan	Panama	
Uganda	Papua New Guinea	
Ukraine	Peru	
United States	Poland	
Uruguay	Portugal	
Uzbekistan	Qatar	
Vanuatu	Romania	
Venezuela	Serbia (Republic of)	
Vietnam	Sierra Leone	
Virgin Islands (British)	Slovak Republic	
Virgin Islands (US)	Slovenia	
Yemen	South Africa	
Zimbabwe	Spain	
	St Kitts and Nevis	
	Sweden	
	Taiwan	
	Tajikistan	
	Tanzania	
	Trinidad and Tobago	
	United Arab Emirates	
	United Kingdom	
	West Bank/Gaza	
	Zambia	

Appendix (7)

Table 8.1 Different Definitions/Treatments of Crisis Years

Variable	2007[87]-2013	2008-2013	2007-2013
GW	0.114***	0.122***	0.115***
	(12.096)	(11.842)	(12.015)
M/B	-0.007***	-0.008***	-0.007***
	(-6.716)	(-6.173)	(-6.458)
ΔMrktCap	-0.003	-0.002	-0.002
	(-1.424)	(-0.748)	(-0.905)
ΔOCF	-0.001	-0.001	-0.001
	(-0.524)	(-0.848)	(-0.729)
ΔSALES	-0.019**	-0.029***	-0.019**
	(-2.040)	(-3.314)	(-1.961)
ΔROA	-0.001***	-0.001***	-0.001***
	(-2.878)	(-2.656)	(-2.684)
Earn_Volt	-0.000	0.000	-0.000
	(-0.299)	(0.204)	(-0.230)
Price_Volt	0.001***	0.001***	0.001***
	(7.168)	(6.916)	(7.080)
ΔIndMd_ROA	0.002	0.002	0.002
	(1.149)	(1.502)	(1.123)
ΔGDP	-0.001	-0.000	-0.001
	(-1.089)	(-0.213)	(-1.037)
OWN	0.000	0.000	0.000
	(0.758)	(0.574)	(0.952)
ΔDebt_Ratio	0.001***	0.001***	0.001***
	(3.245)	(3.886)	(4.019)
BATH	0.059	0.082	0.075
	(1.313)	(1.581)	(1.493)
SMOOTH	0.003***	0.008	0.009**
	(2.987)	(1.589)	(2.016)
SIZE	0.008***	0.008***	0.008***
	(10.255)	(9.816)	(10.324)
BIG4	-0.006*	-0.005	-0.006*
	(-1.815)	(-1.604)	(-1.807)
Crisis Period	0.009***	0.013***	0.009***

[87] Although the 2007 year includes some observations, not exactly belonging to the crisis period, defining the 2007-2009 as a crisis period is not an issue, and it is consistent with several studies (e.g. Anand et al., 2013; Dimpfl and Peter, 2014; Aizenman et al., 2015; Thakor, 2015) published in top academic journals in recent years. Furthermore, the effects of the financial crisis may take place, even before the crisis is officially announced (i.e. enterprises may feel it even before the crisis flows to the surface). It will take no less than six months (two consecutive quarters of decline in a real GDP) to announce that a particular country officially enters into a recession, resulting in crisis having different starting points in different countries. Many enterprises (e.g. Lehman Brothers) naturally go bankrupt before or around the official announcement of the crisis (i.e. not overnight), and when they do so, the whole economy (as measured by GDP) will seriously deteriorate (GDP is affected by the contribution of each enterprise to total GDP).

	(3.336)	(3.174)	(3.210)
Basic Materials	0.010	0.010	0.009
	(1.217)	(1.110)	(1.155)
Industrials	0.019***	0.020**	0.019***
	(2.598)	(2.552)	(2.644)
Consumer Goods	0.016**	0.019**	0.017**
	(2.152)	(2.375)	(2.246)
Health Care	0.005	0.001	0.001
	(0.552)	(0.135)	(0.143)
Consumer Services	0.022***	0.023***	0.022***
	(2.857)	(2.808)	(2.917)
Telecommunications	0.034***	0.032***	0.031***
	(3.331)	(2.985)	(3.087)
Utilities	0.027***	0.031***	0.027***
	(3.159)	(3.335)	(3.191)
Technology	0.018**	0.019**	0.018**
	(2.183)	(2.139)	(2.218)
Austria	0.009	0.004	0.003
	(1.236)	(0.555)	(0.368)
Belgium	-0.031***	-0.037***	-0.033***
	(-3.897)	(-4.224)	(-4.140)
Denmark	-0.009	-0.010	-0.010
	(-1.207)	(-1.286)	(-1.412)
Finland	-0.009	-0.009	-0.011*
	(-1.358)	(-1.340)	(-1.719)
France	-0.016***	-0.018***	-0.019***
	(-3.784)	(-3.741)	(-4.293)
Germany	-0.016***	-0.016***	-0.018***
	(-3.445)	(-3.137)	(-3.706)
Greece	-0.061***	-0.060***	-0.062***
	(-6.142)	(-5.775)	(-6.306)
Italy	-0.036***	-0.038***	-0.039***
	(-6.099)	(-5.844)	(-6.411)
Netherlands	0.003	0.001	-0.001
	(0.390)	(0.087)	(-0.081)
Norway	-0.013**	-0.016**	-0.016**
	(-1.974)	(-2.153)	(-2.275)
Poland	-0.045***	-0.051***	-0.047***
	(-6.182)	(-6.474)	(-6.411)
Portugal	-0.023***	-0.021**	-0.026***
	(-2.673)	(-2.248)	(-2.999)
South Africa	0.017***	0.015***	0.013***
	(3.524)	(2.924)	(2.680)
Spain	-0.026***	-0.026***	-0.028***
	(-3.767)	(-3.426)	(-4.079)
Sweden	-0.021***	-0.023***	-0.023***
	(-3.346)	(-3.263)	(-3.525)
United Kingdom	-0.023***	-0.024***	-0.025***
	(-4.889)	(-4.920)	(-5.208)
Constant	-0.186***	-0.189***	-0.183***

	(-12.492)	(-11.481)	(-12.013)
N	14,898	12,921	14,213
F-statistics	8.74	8.54	8.63
Prob > F	0.000	0.000	0.000

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 8.2 Comparisons of the Incremental Effects of Institutional Characteristics on Goodwill-Impairments

Variable	LG_Orgn	LG_SYS	Invstr_Prtct	Qlty_Lglty	EqtyMrkt_Dvlp	Book_Tax	Audit_Enforce
GW	0.109***	0.110***	0.111***	0.110***	0.110***	0.114***	0.113***
	(11.990)	(12.041)	(11.986)	(12.091)	(12.117)	(12.189)	(12.082)
M/B	-0.007***	-0.007***	-0.007***	-0.007***	-0.007***	-0.007***	-0.007***
	(-6.955)	(-6.963)	(-6.884)	(-6.837)	(-6.955)	(-6.778)	(-6.806)
ΔMrktCap	-0.003	-0.003	-0.002	-0.003	-0.003	-0.002	-0.002
	(-1.358)	(-1.340)	(-1.268)	(-1.473)	(-1.340)	(-1.252)	(-1.223)
ΔOCF	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001
	(-0.669)	(-0.688)	(-0.712)	(-0.668)	(-0.513)	(-0.613)	(-0.768)
ΔSALES	-0.019**	-0.019**	-0.019**	-0.019**	-0.019**	-0.020**	-0.019**
	(-1.997)	(-2.009)	(-1.987)	(-1.995)	(-1.984)	(-2.042)	(-2.016)
ΔROA	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***
	(-2.894)	(-2.896)	(-2.896)	(-2.884)	(-2.897)	(-2.887)	(-2.896)
Earn_Volt	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(-0.488)	(-0.478)	(-0.615)	(-0.203)	(-0.298)	(-0.758)	(-0.675)
Price_Volt	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***
	(6.883)	(6.888)	(7.085)	(7.264)	(6.907)	(7.023)	(7.003)
ΔIndMd_ROA	-0.000	-0.000	-0.001	0.000	0.000	-0.001	-0.001
	(-0.107)	(-0.162)	(-0.499)	(0.243)	(0.116)	(-1.027)	(-0.721)
ΔGDP	0.001*	0.001*	0.001**	0.000	0.001	0.002***	0.001***
	(1.660)	(1.805)	(2.433)	(0.922)	(1.176)	(2.958)	(2.922)
OWN	0.000*	0.000	0.000	0.000**	0.000*	0.000	-0.000
	(1.761)	(1.355)	(0.795)	(1.977)	(1.867)	(0.774)	(-0.017)
ΔDebt_Ratio	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***
	(3.135)	(3.158)	(3.143)	(3.203)	(3.173)	(3.310)	(3.118)
BATH	0.059	0.059	0.060	0.060	0.058	0.059	0.060
	(1.282)	(1.283)	(1.275)	(1.289)	(1.260)	(1.268)	(1.278)
SMOOTH	0.003***	0.003***	0.003***	0.003***	0.003***	0.003***	0.003***
	(3.085)	(3.076)	(3.089)	(3.074)	(3.077)	(3.068)	(3.097)
SIZE	0.008***	0.008***	0.007***	0.008***	0.008***	0.007***	0.007***

	(10.384)	(10.166)	(9.867)	(10.731)	(10.423)	(10.070)	(9.640)
BIG4	-0.005	-0.003	-0.004	-0.006**	-0.004	-0.006*	-0.004
	(-1.633)	(-1.136)	(-1.332)	(-2.014)	(-1.422)	(-1.827)	(-1.179)
Crisis Period	0.009***	0.009***	0.008***	0.009***	0.009***	0.008***	0.008***
	(3.195)	(3.182)	(3.060)	(3.177)	(3.289)	(2.820)	(2.992)
Basic Materials	0.013*	0.013*	0.013*	0.012	0.011	0.011	0.013*
	(1.730)	(1.670)	(1.748)	(1.537)	(1.463)	(1.357)	(1.693)
Industrials	0.023***	0.022***	0.022***	0.021***	0.021***	0.022***	0.022***
	(3.237)	(3.166)	(3.160)	(2.939)	(2.913)	(2.973)	(3.042)
Consumer Goods	0.019***	0.018**	0.018**	0.018**	0.017**	0.019**	0.017**
	(2.584)	(2.470)	(2.434)	(2.412)	(2.333)	(2.532)	(2.291)
Health Care	0.009	0.008	0.008	0.007	0.007	0.005	0.006
	(1.040)	(0.934)	(0.903)	(0.753)	(0.856)	(0.591)	(0.720)
Consumer Services	0.024***	0.023***	0.024***	0.023***	0.022***	0.023***	0.023***
	(3.320)	(3.195)	(3.211)	(3.174)	(3.002)	(3.034)	(3.143)
Telecommunications	0.039***	0.038***	0.039***	0.037***	0.038***	0.041***	0.038***
	(3.804)	(3.787)	(3.844)	(3.641)	(3.709)	(3.896)	(3.741)
Utilities	0.028***	0.027***	0.027***	0.030***	0.028***	0.027***	0.027***
	(3.301)	(3.177)	(3.222)	(3.514)	(3.259)	(3.109)	(3.149)
Technology	0.023***	0.022***	0.020**	0.019**	0.020***	0.019**	0.018**
	(2.896)	(2.766)	(2.569)	(2.408)	(2.598)	(2.340)	(2.323)
French	-0.015***						
	(-4.997)						
German	-0.014***						
	(-4.123)						
Scandinavian	-0.007*						
	(-1.959)						
Common Law		0.012***					
		(4.771)					
Invstr_Prtct			0.002***				
			(3.016)				

Qlty_Lglty				0.010***			
				(8.664)			
EqtyMrkt_Dvlp					0.000***		
					(8.054)		
Book_Tax						-0.020***	
						(-3.381)	
Audit_Enforce							0.000
							(0.260)
Constant	-0.199***	-0.210***	-0.217***	-0.325***	-0.226***	-0.195***	-0.201***
	(-13.159)	(-13.440)	(-13.180)	(-13.858)	(-13.936)	(-12.678)	(-12.352)
N	14,898	14,898	14,898	14,898	14,898	14,248	14,898
F-statistics	11.74	12.57	12.56	13.01	12.93	12.26	12.31
Prob > F	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 8.3 Comparisons of the Incremental Effects of the Cultural Dimensions on Goodwill-Impairments

Variable	Pwr_Dst	Indvdlsm	Msclnty	Uncrtnty_Avd	LngTrm_Ornt
GW	0.112***	0.110***	0.113***	0.110***	0.112***
	(12.192)	(11.892)	(12.187)	(11.987)	(12.224)
M/B	-0.007***	-0.007***	-0.007***	-0.007***	-0.007***
	(-6.876)	(-6.835)	(-6.789)	(-6.907)	(-6.824)
ΔMrktCap	-0.002	-0.002	-0.002	-0.002	-0.002
	(-1.234)	(-1.281)	(-1.206)	(-1.262)	(-1.288)
ΔOCF	-0.001	-0.001	-0.001	-0.001	-0.001
	(-0.758)	(-0.780)	(-0.765)	(-0.700)	(-0.729)
ΔSALES	-0.019**	-0.019**	-0.019**	-0.019**	-0.019**
	(-2.026)	(-2.006)	(-2.013)	(-1.994)	(-2.021)
ΔROA	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***
	(-2.893)	(-2.894)	(-2.896)	(-2.894)	(-2.895)
Earn_Volt	-0.000	-0.000	-0.000	-0.000	-0.000
	(-0.663)	(-0.660)	(-0.643)	(-0.595)	(-0.617)
Price_Volt	0.001***	0.001***	0.001***	0.001***	0.001***
	(7.074)	(7.076)	(7.026)	(7.068)	(6.786)
ΔIndMd_ROA	-0.001	-0.001	-0.001	-0.001	-0.000
	(-0.627)	(-0.484)	(-0.756)	(-0.486)	(-0.329)
ΔGDP	0.001***	0.001**	0.001***	0.001**	0.001**
	(2.881)	(2.373)	(2.983)	(2.552)	(2.133)
OWN	0.000	0.000	-0.000	0.000	0.000
	(1.098)	(0.602)	(-0.048)	(1.635)	(0.242)
ΔDebt_Ratio	0.001***	0.001***	0.001***	0.001***	0.001***
	(3.099)	(3.155)	(3.115)	(3.144)	(3.099)
BATH	0.060	0.060	0.060	0.060	0.059
	(1.295)	(1.291)	(1.277)	(1.285)	(1.281)
SMOOTH	0.003***	0.003***	0.003***	0.003***	0.003***
	(3.101)	(3.077)	(3.099)	(3.103)	(3.081)
SIZE	0.008***	0.007***	0.007***	0.008***	0.007***

	(10.187)	(9.847)	(9.632)	(10.224)	(10.100)
BIG4	-0.006*	-0.004	-0.004	-0.006**	-0.004
	(-1.950)	(-1.331)	(-1.261)	(-2.078)	(-1.382)
Crisis Period	0.008***	0.008***	0.008***	0.008***	0.009***
	(3.013)	(3.024)	(2.983)	(3.061)	(3.128)
Basic Materials	0.014*	0.013*	0.013*	0.014*	0.013*
	(1.778)	(1.733)	(1.650)	(1.798)	(1.731)
Industrials	0.022***	0.022***	0.021***	0.022***	0.023***
	(3.113)	(3.129)	(2.987)	(3.135)	(3.233)
Consumer Goods	0.018**	0.017**	0.017**	0.019**	0.018**
	(2.476)	(2.362)	(2.244)	(2.506)	(2.478)
Health Care	0.007	0.007	0.006	0.008	0.008
	(0.859)	(0.805)	(0.685)	(0.938)	(0.936)
Consumer Services	0.025***	0.024***	0.023***	0.025***	0.025***
	(3.350)	(3.207)	(3.110)	(3.323)	(3.322)
Telecommunications	0.038***	0.039***	0.038***	0.039***	0.038***
	(3.727)	(3.798)	(3.721)	(3.793)	(3.778)
Utilities	0.028***	0.027***	0.027***	0.028***	0.027***
	(3.276)	(3.150)	(3.154)	(3.329)	(3.246)
Technology	0.020**	0.020**	0.018**	0.021***	0.022***
	(2.563)	(2.475)	(2.253)	(2.643)	(2.742)
Pwr_Dst	-0.000***				
	(-4.847)				
Indvdlsm		0.000**			
		(2.381)			
Msclnty			-0.000		
			(-0.755)		
Uncrtnty_Avd				-0.000***	
				(-4.937)	
LngTrm_Ornt					-0.000***
					(-3.838)

Constant	-0.189***	-0.217***	-0.197***	-0.190***	-0.189***
	(-12.662)	(-12.375)	(-12.819)	(-12.691)	(-12.560)
N	14,898	14,898	14,898	14,898	14,898
F-statistics	12.46	12.39	12.30	12.58	12.41
Prob > F	0.000	0.000	0.000	0.000	0.000

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 8.4 Cross-Country Comparisons of the Association between Goodwill-Impairments and Economic/Reporting Incentives (1)

Variable	AUS	AUT	BEL	DNK	FIN	FRA	DEU	GRC	ITA
GW	0.234***	0.111***	-0.072***	0.064*	0.159***	0.040***	0.080***	0.081**	0.077***
	(7.503)	(4.354)	(-2.948)	(1.771)	(4.383)	(4.715)	(3.355)	(2.512)	(4.816)
M/B	-0.028***	-0.003*	-0.010***	-0.001	-0.011**	-0.004***	-0.003	-0.002	-0.004*
	(-5.591)	(-1.903)	(-2.745)	(-1.373)	(-2.444)	(-2.826)	(-1.394)	(-1.296)	(-1.889)
ΔMrktCap	-0.011	0.003	0.008	-0.004	-0.004	-0.002	0.001	0.003***	-0.004
	(-1.462)	(1.236)	(1.000)	(-0.518)	(-0.398)	(-0.955)	(0.137)	(2.746)	(-0.719)
ΔOCF	-0.065*	0.006	-0.047	0.035	-0.018	0.021	0.032	0.038	0.025
	(-1.741)	(0.350)	(-1.155)	(0.981)	(-0.316)	(1.187)	(1.481)	(1.316)	(0.810)
ΔSALES	-0.039**	0.012*	-0.001	0.001	-0.055**	-0.016*	-0.003	-0.003	-0.011
	(-2.422)	(1.810)	(-0.070)	(0.055)	(-2.378)	(-1.937)	(-0.550)	(-0.450)	(-1.007)
ΔROA	-0.001***	-0.005***	-0.005***	-0.003***	-0.004***	-0.003***	-0.003***	-0.007***	-0.002**
	(-3.330)	(-4.405)	(-2.834)	(-3.886)	(-3.325)	(-3.602)	(-3.225)	(-4.735)	(-2.321)
Earn_Volt	0.000	-0.000	0.000	0.000	-0.017***	-0.000*	-0.001**	-0.002	-0.000***
	(0.857)	(-0.891)	(1.197)	(0.779)	(-3.824)	(-1.726)	(-2.505)	(-1.083)	(-5.355)
Price_Volt	0.002***	-0.001***	0.000	0.001	0.000	0.001***	0.000	0.000	0.001**
	(3.067)	(-3.757)	(1.053)	(0.950)	(0.273)	(3.263)	(0.862)	(0.734)	(2.143)
ΔIndMd_ROA	-0.001	0.001	0.005	-0.003	0.000	-0.000	-0.004	0.008**	0.001
	(-0.231)	(0.309)	(1.403)	(-0.626)	(0.025)	(-0.268)	(-1.077)	(2.548)	(0.296)
ΔGDP	0.001	0.000	0.002	0.002	0.000	0.000	-0.001	-0.006***	0.001
	(0.128)	(0.206)	(1.027)	(0.772)	(0.001)	(0.292)	(-0.897)	(-3.452)	(0.632)
OWN	-0.000	-0.000*	0.000	0.001**	0.000	0.000	0.000	0.000	0.000***
	(-0.025)	(-1.952)	(0.032)	(2.588)	(0.239)	(0.965)	(0.373)	(0.258)	(2.621)
ΔDebt_Ratio	0.002***	0.000	0.001	-0.001***	0.000	0.000	0.000	0.001**	0.001**
	(3.251)	(0.944)	(1.126)	(-3.417)	(0.857)	(0.156)	(0.213)	(2.194)	(2.102)
BATH	0.007	0.321***	0.443**	0.084***	0.284*	0.242**	0.319***	0.591***	0.144
	(0.373)	(3.203)	(2.332)	(3.492)	(1.652)	(2.369)	(3.158)	(4.319)	(1.523)
SMOOTH	0.010**	0.266***	0.395***	0.170***	0.296***	0.368***	0.236***	0.586***	0.215**
	(2.117)	(3.083)	(2.671)	(3.357)	(4.014)	(3.974)	(3.219)	(4.019)	(2.549)
SIZE	0.010***	0.000	0.005**	0.003	0.008***	0.005***	0.005***	0.008***	0.005***

	(2.888)	(0.382)	(2.451)	(1.138)	(3.729)	(7.457)	(3.719)	(3.483)	(3.640)
BIG4	0.000	0.001	-0.005	-0.022	-	-0.007***	-0.003	0.010	0.008
	(0.034)	(0.347)	(-0.732)	(-1.529)	-	(-2.637)	(-0.488)	(1.498)	(1.036)
Crisis Period	0.010	0.001	0.012**	0.032***	0.003	0.001	-0.000	0.028**	0.001
	(0.748)	(0.253)	(1.974)	(3.168)	(0.312)	(0.179)	(-0.023)	(2.519)	(0.121)
Industry	0.003	-0.000	0.001	0.001	-0.001	-0.001	0.002	-0.001	0.000
	(1.207)	(-0.580)	(0.716)	(0.491)	(-0.865)	(-1.253)	(1.572)	(-0.416)	(0.614)
Constant	-0.319***	0.013	-0.067**	-0.125***	-0.117***	-0.084***	-0.119***	-0.152***	-0.123***
	(-5.907)	(0.853)	(-2.528)	(-3.119)	(-3.414)	(-6.934)	(-3.626)	(-4.432)	(-5.071)
N	2,602	228	346	362	564	1,884	1,563	397	878
F-statistics	7.45	2.83	1.69	2.79	5.58	5.28	2.84	3.50	3.31
Prob > F	0.000	0.000	0.039	0.000	0.000	0.000	0.000	0.000	0.000

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Cross-Country Comparisons of the Association between Goodwill-Impairments and Economic/Reporting Incentives (2)

Variable	**NLD**	**NOR**	**PRT**	**ZAF**	**ESP**	**SWE**	**GBR**
GW	0.201***	0.123***	0.029*	0.123***	0.079***	0.080***	0.061***
	(4.537)	(3.254)	(1.708)	(4.110)	(4.184)	(2.732)	(4.968)
M/B	0.003	-0.018***	-0.001	-0.003*	-0.004***	-0.014***	-0.004***
	(0.791)	(-3.328)	(-1.369)	(-1.887)	(-2.986)	(-3.451)	(-2.732)
ΔMrktCap	-0.035*	-0.002	-0.007**	-0.008	-0.007	0.011*	-0.000
	(-1.859)	(-0.932)	(-2.060)	(-1.210)	(-1.249)	(1.808)	(-0.161)
ΔOCF	0.009	0.000	-0.016	0.007	0.028	-0.168**	0.025
	(0.097)	(0.009)	(-0.891)	(0.445)	(0.785)	(-2.580)	(0.851)
ΔSALES	-0.010	0.016	-0.018	-0.008	-0.008	-0.045***	-0.037***
	(-0.379)	(0.630)	(-1.625)	(-1.173)	(-0.510)	(-2.661)	(-3.526)
ΔROA	-0.004***	-0.002***	-0.001	-0.004***	-0.006***	-0.008***	-0.002***
	(-4.252)	(-3.112)	(-1.375)	(-3.601)	(-4.625)	(-8.181)	(-3.808)
Earn_Volt	0.000	0.000*	0.004	-0.000	-0.001	-0.000	0.000
	(0.096)	(1.839)	(1.006)	(-0.208)	(-1.146)	(-0.154)	(1.282)
Price_Volt	0.002**	-0.000	0.000	0.000	0.000	0.000	0.000
	(2.378)	(-0.538)	(0.412)	(0.123)	(1.022)	(0.461)	(0.203)
ΔIndMd_ROA	0.001	0.012**	0.002	0.005	0.001	0.004	0.003
	(0.120)	(2.364)	(1.068)	(1.532)	(0.324)	(0.680)	(1.108)
ΔGDP	-0.003	-0.007**	-0.002	0.001	-0.000	0.002	-0.001
	(-0.823)	(-2.005)	(-1.359)	(0.467)	(-0.256)	(0.929)	(-0.406)
OWN	0.000	-0.001**	0.000	-0.000	0.000*	0.000	0.000
	(0.819)	(-2.321)	(1.331)	(-1.253)	(1.781)	(0.471)	(1.308)
ΔDebt_Ratio	0.001	0.001*	-0.000	0.000	-0.000	0.001	0.001
	(0.904)	(1.801)	(-1.267)	(0.584)	(-0.482)	(0.954)	(1.498)
BATH	0.428***	0.280**	0.096	0.373***	0.500***	0.825***	0.022
	(3.298)	(2.407)	(0.902)	(3.000)	(3.777)	(6.872)	(0.249)
SMOOTH	-0.006	0.187***	0.126*	0.225***	0.541***	0.651***	0.007***
	(-0.108)	(2.655)	(1.682)	(3.101)	(4.377)	(6.890)	(2.886)
SIZE	0.001	0.008***	0.003*	0.007***	0.003***	0.010***	0.009***

	(0.300)	(2.921)	(1.804)	(3.889)	(2.753)	(3.968)	(6.284)
BIG4	0.041	0.002	-0.001	-0.014**	-0.006	-0.044	-0.009
	(1.213)	(0.094)	(-0.089)	(-1.993)	(-1.213)	(-1.574)	(-1.064)
Crisis Period	0.024	0.031***	0.001	-0.001	-0.003	0.013	0.005
	(1.318)	(2.694)	(0.127)	(-0.145)	(-0.434)	(1.040)	(0.823)
Industry	-0.001	0.005**	-0.001	-0.002	0.001	0.001	0.001
	(-0.399)	(2.093)	(-1.022)	(-1.248)	(0.963)	(0.654)	(0.697)
Constant	-0.241***	-0.084*	-0.047*	-0.069***	-0.085***	-0.133***	-0.135***
	(-3.131)	(-1.799)	(-1.960)	(-2.742)	(-3.946)	(-2.798)	(-7.204)
N	351	417	195	840	401	869	2,351
F-statistics	5.67	2.92	0.52	2.77	3.51	9.40	4.69
Prob > F	0.000	0.000	0.947	0.000	0.000	0.000	0.000

Robust t-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1